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IDENTIFIERS	Australia; *Knowledge Management

ABSTRACT

This proceeding of the Australian Library and Information Association (ALIA) 2000 conference contains 64 papers presented at the main conference and 12 papers presented at the fringe conference. Topics covered include: the 21st century information environment; user perspectives of the future of the Internet; the user interface; public libraries in a wired world; censorship in public libraries; knowledge management; the impact of change on research libraries; building a knowledge-based economy and society; value and performance in the information technology society; adding value to services at the State Library of New South Wales; the policy and practice of fee-based service; library industry statistics; adult education; intellectual property--access and protection; infrastructure and convergence; libraries and literary outcomes; information provider roles; access to library services; development of information literacy; libraries, knowledge management, and higher education in an electronic environment; the impact of change at the Melbourne University Library; views of technology futures; information needs in the consumer society; upgrading libraries; a public library perspective on lifelong learning; ensuring an educational role for libraries in the information society; the greying of the teacher librarian; access to services for rural and remote communities; resource discovery within the networked "hybrid" library; performance measures, benchmarking, and value; leadership and management skills and the information profession; self service and the function of the new intermediary; educational implications of material presented at ALIA 2000; reference in the e-library; the market for information; flexible learning developments; privacy aspects of intellectual property; statistics on the online society; enabling best practice recordkeeping in the digital age; librarians working with academics to close the information gap; content of the future; flexible learning in higher education; skills for systems support; digital media for historians and librarians; making the most of the World Wide Web; the information professional of the future; the role of libraries in providing online services for people with disabilities; the impact of copyright changes on libraries; the need for network supportability for libraries; mentoring relationships; career planning; the library professional and the professional

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association; innovation, flexibility, and professionalism; and skills development for a successful career. (MES)

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ALIA 2000. Capitalising on Knowledge: The Information Profession in the 21st Century

(Canberra, Australia, October 23-26, 2000).

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ALIA 2000

Capitalising on knowledge

the information profession in the 21st century

24-26 October 2000

Do you have an interesting project which is not quite ready to be a conference paper? Would you like some feedback from fellow professionals on a project?

Why not enrol for our proposed Poster session on Thursday 26 October. For this all you need is to prepare some information about your project preferably in a format that is readily displayed and to be prepared to speak about it for about 10 minutes at the appointed time.

If you think this is the ideal opportunity for YOU contact Libby Coates, Poster Session Co-ordinator at lcoates@cyberone.com.au or via the Conference Convenor at alia2000.conference@alia.org.au

INVITATION TO ATTEND

The ALIA 2000 Biennial Conference will be held at the National Convention Centre in Canberra from 23-26 October, with the title Capitalising on Knowledge: the Information Profession in the 21st Century. We have put together an interesting and varied program, looking ahead to how we can use the tools and techniques of the future, building on the professional values that we've developed in the past.

There is an outstanding program of Australian and overseas speakers, seminars and satellite events, a range of library tours, a Fringe conference and an exhausting social schedule. Canberra will be at its best in spring, with the added benefit of daylight saving to make it easier to fit all of the conference activities into the available time.

All we need is you.

Please come and join us in Canberra in October.

Kerry Webb

Convenor, ALIA 2000

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Key dates

Earlybird fee deadline	Friday 1 September 2000
Registration & conference opening	Monday 23 October 2000
Conference welcome reception	Monday 23 October 2000
Exhibition opening	Monday 23 October 2000
Conference sessions commence	Tuesday 24 October 2000
Conference reception & dinner	Wednesday 25 October 2000
Closing ceremony	Thursday 26 October 2000

You can register for ALIA 2000 through this web site or acquire copies of the brochure through the conference secretariat, Conference Solutions, phone +61 2 6285 3000, fax: +61 2 6285 3001, e-mail: alia2000.conference@alia.org.au.

The registration fees (including GST) for the conference are as follows:

	ALIA members		Non-members	
	Before 1 Sept	After 1 Sept	Before 1 Sept	After 1 Sept
Full conference registration	$540	$650	$710	$815
Fringe registration only	$55	$65	$75	$90
Full registration, including Fringe	$595	$715	$785	$910
Day registration	$210/day	$265/day	$320/day	$375/day
Day and Fringe	$265	$330	$395	$470
Students/unemployed				
Full registration, including Fringe	$165	$220	$210	$265
Fringe registration only	$45	$50	$55	$60
Fringe and day registration	$100/day	$120/day	$125/day	$145/day

*non-member registration also includes optional membership of the Association for the 2000/2001 year.

Conference Committee

Convenor Kerry Webb kwebb@alianet.alia.org.au
Deputy Convenor Diane Costello diane.costello@anu.edu.au
Treasurer Emma Davis-Bell emma.davis-bell@alia.org.au
Chair, Program Subcommittee Colin Steele librarian@anu.edu.au
Chair, Exhibition/Sponsorship Subcommittee Roslynn Membrey roslynn.membrey@aph.gov.au
Chair, Social Subcommittee Brenda McConchie bmcconchie@aima.org.au
Chair, Publicity Subcommittee Nola Adcock nola.adcock@aph.gov.au
Chair, Library Tours Subcommittee Ursula Macdermott

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ursula.macdermott@alia.org.au
Chair, IT and Publishing Subcommittee Katrina Chirgwin
twthink@spirit.com.au
Chair, Fringe Event Subcommittee Ann Ritchie aritchie@aima.org.au
Conference Organiser Conference Solutions
alia2000.conference@alia.org.au

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Program

Indicate Your Session Preferences

To help the Committee arrange suitable accommodation for the various sessions we request that you use this program to indicate your session preference. This is NOT a booking form but the information you submit will help us with the conference organisation.

Select the checkbox next to the session number of the sessions you think you will attend and hit the submit button at the bottom of this page.

A session description and an author list are also available.

Use the hypertext links on authors' names to see more information (including: bio; relevant links; paper title, abstract and text - all subject to availability).

All queries should be addressed to the Chair of the Program Committee, Colin Steele, University Librarian, Australian National University.

DAY 1 Tuesday 24 October 2000 THE ENVIRONMENT – THE FUTURE
** at the start of a session indicates a separate session

TIME	*THE SOCIETAL CONTEXT*	*THE LEGAL CONTEXT*	*THE LEARNING CONTEXT*	*THE TECHNOLOGICAL CONTEXT*
9.00-10.00	Keynote Address The Environment the future Speaker: Dr Paul Twomey of Argo P@cific			
10.00-10.30	Morning tea/Exhibition			
10.30-12.30	The 21st C information environment *Dr Rod Badger* *Dr Jerry Everard* *Ms Jan Fullerton* 2 ☐	Intellectual property - setting the scene for the 21stC *Sir Anthony Mason* *Tom Cochrane* Privacy aspects *Jack Waterford* *Catherine Riordan* 7 ☐	Trends in the learning environment Globalisation of the information economy *Prof Ron Johnston* New educational paradigms: modes of education in the 21st Century *Prof Don Aitkin* Life long learning *Dr Bill Donovan* *Craig Anderson* *Maureen Kahlert* 11 ☐	Views of the technological future Infrastructure and convergence issues *Geoff Huston* *Stewart Fist* IT developments and the information future *Rob Durie* Inter-operability and IT linkages *Dr Renato Iannell* 14 ☐

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12.30-2.00	Lunch/Exhibition	[illegible]nch/Exhibition	Lunch/Exhibition	Lunch/Exhibition

DAY 1 THE ENVIROMENT – THE FUTURE

TIME	THE SOCIETAL CONTEXT	THE LEGAL CONTEXT	THE LEARNING CONTEXT	THE TECHNOLOGICAL CONTEXT
2.00-3.00	The impact of change of information access on society Sue Boaden 3 ☐	Intellectual Property - access and protection Philip Blackwell Alex Byrne Eve Woodberry 8 ☐	Flexible learning developments Janice Rickards Dr Chris Trevitt 12 ☐	Public libraries in a wired world Chris Batt 15 ☐
3.00-3.30	Afternoon Tea/Exhibition	Afternoon Tea/Exhibition	Afternoon Tea/Exhibition	Afternoon Tea/Exhibition
3.30-5.30 NB ** indicates separate session	The impact of change on library environments: **University/research libraries Helen Hayes Maxine Brodie Philip Kent Mike Ridley 4 ☐ ** Public libraries June Garcia Frances Awcock Margaret Butterworth Kay Poustie 5 ☐ **Special libraries See the impact of change by visiting ACT special libraries -ABS AFFA AGSO CSIRO AHAC see Tours list for details 6 ☐	Intellectual property - access and protection Consumer rights Dawn Casey Charles Britton Libby Gleeson David Emery Nick Smith 9 ☐ ** Censorship in public libraries Elizabeth Handsley Richard Holt / Deidre Pellizzer Ann K. Symons Derek Whitehead 10 ☐	The library perspective on information literacy Nikki Kallenberger Anne Horn Anne Girolami Kris Johnstone / Sandra Ryan Marilyn Steven Karen Visser 13 ☐	Library services for a networked environment Neil McLean Digital libraries Dr Warwick Cathro Brewster Kahle 16 ☐
5.30	Close	Close	Close	Close

DAY 2 Wednesday 25 October 2000 CONSUMER NEEDS

TIME	KNOWLEDGE MANAGEMENT	CONTENT	ACCESS TO SERVICE	TECHNOLOGY

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9.00-10.00	Keynote address Understanding and providing for consumer needs *Dr Brian Hawkins* 17			
10.00-10.30	**Morning Tea/Exhibition**	**Morning Tea/Exhibition**	**Morning Tea/Exhibition**	**Morning Tea/Exhibition**
10.30-12.30	Knowledge management theory and technology *Jo Bryson* *Christine Johnston* Knowledge management skills and knowledge literacy *Ted Briggs/Dale Chatwin* *Karen Bishop* *Kathryn Dan* 18 ☐	Content for consumers *Prof Trevor Barr* *Sheridan Roberts* *Ian Webster* 21 ☐	Access by communities *Richard Vincent* *Kathleen Bresnahan / Chris Burns* *Robert Knight* *Dr Kirsty Williamson* *Bruce Maguire* 25 ☐	Consumer needs in the information society *Tom Worthington* *Dr Roger Clarke* *Oliver Freeman* 28 ☐
12.30-2.00	Lunch/Exhibition	Lunch/Exhibition	Lunch/Exhibition	Lunch/Exhibition

DAY 2 Wednesday 25 October 20000 CONSUMER NEEDS

2.00-3.00	*KNOWLEDGE MANAGEMENT*	*CONTENT*	*ACCESS TO SERVICE*	*TECHNOLOGY*
	Knowledge management-blending the ingredients *Cedric Israelsohn* 19 ☐	The market for information *Victoria Richardson* 22 ☐	Ensuring effective access to library services *Dr José-Marie Griffiths* *Donald W King* 6 ☐	The information needs in the consumer society - a technological basis *Jay Jordan* *Senator Kate Lundy* 29 ☐
3.00-3.30	**Afternoon Tea/Exhibition**	**Afternoon Tea/Exhibition**	**Afternoon Tea/Exhibition**	**Afternoon Tea/Exhibition**
3.30-5.30	Knowledge management a practical interactive panel - incorporating speakers from the morning KM sessions (3.30-5.00pm) 20 ☐	Content for the future *Jenny Morawska-Ahearn* *Dr Jeremy Shearmur* *Prof Edward Lim* Indigenous content *Helena Gulash* Multicultural content *Andrew*	Customer services *Sabine Robertson / Shirley Sullivan* *Janine Schmidt* *Steve O'Connor* *Mike Middleton* Censorship- *Tom Cochrane* 27 ☐	Current interface uses *Helen Hasan* *Tony Barry* *Geoff Payne* *Tim Noonan* 30 ☐

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		Cunningham 23 ☐		
4.30-5.30 ** indicates separate session	** Electronic publishing in the 21st Century *Donald W King* *Deb DeBruijn* 24 ☐			
5.30 Close	Close	Close	Close	Close

DAY 3 THURSDAY 26 OCTOBER PROVIDER ROLES

TIME	*THE INFORMATION PROFESSIONAL*	*VALUE, PERFORMANCE AND RELEVANCE*	*THE CREATORS*	*TECHNOLOGY*
9.00-10.00	**Keynote Address** The information professions:serving information creators and users *Prof José-Marie Griffiths* 31			
10.00-10.30	**Morning Tea/Exhibition**	Morning Tea/Exhibition	Morning Tea/Exhibition	Morning Tea/Exhibition
10.30-12.30	The library and information profession in the future - different routes Margie Anderson Phillipa Fasham Robert Tucker - the educators *Assoc Prof Ross Todd* - the Aurora graduates *Richard Sayers* *Aileen Weir* *Spencer Lilley* 32 ☐	Measuring the value and performance of information providers *Jo Bryson* *Therese Lake /* *Kerrie Burgess* *Felicity McGregor* *Prue Mercer* *Moyra McAllister* 34 ☐	Creators and publishers *Dr Paul Turnbull* *Rick Johnson* *Stephen Matthews* *Paul Hetherington* *Peter Donoughue* 36 ☐	Standards, permanence and resource discovery *Anne Robertson* *Debbie Campbell* *Sally-Anne Leigh* *Roxanne Missingham* *Belinda Weaver* 38 ☐
12.30-2.00				

DAY 3 THURSDAY 26 OCTOBER PROVIDER ROLES

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2.00-3.30	*THE INFORMATION PROFESSIONAL*	*VALUE, PERFORMANCE AND*	*CREATORS*	*TECHNOLOGY*
	Keeping up to date: librarians and the future *Georgina Cane/Leonie Blair* *Jan Kaye* *Anne Galligan* *Graeme Johanson* Conference Summary: Education and practice for the future *Mike Middleton* *Associate Prof Ross Todd* 33 ☐	Library industry statistics for the 21stC *Alan Bundy* *Ainslie Dewe* *Jennefer Nicholson* Conference Summary: Consumer needs and user services *Gaynor Austen* *Craig Anderson* 35 ☐	Authors and libraries – a symbiotic relationship *Marion Halligan* *Sophie Masson* *Prof Hank Nelson* 37 ☐	Globalisation of library services and suppliers. *Andrew Wells* *Steven Hall* Conference Summary: Technology *Ian McCallum* 39 ☐
33.30-4.00	Information in the 21stCentury: A heretical view - Special Guest Speaker: *James O'Loghlin* 40			
4.00-4.30	Closing ceremony			
4.30	Close			

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Exhibition

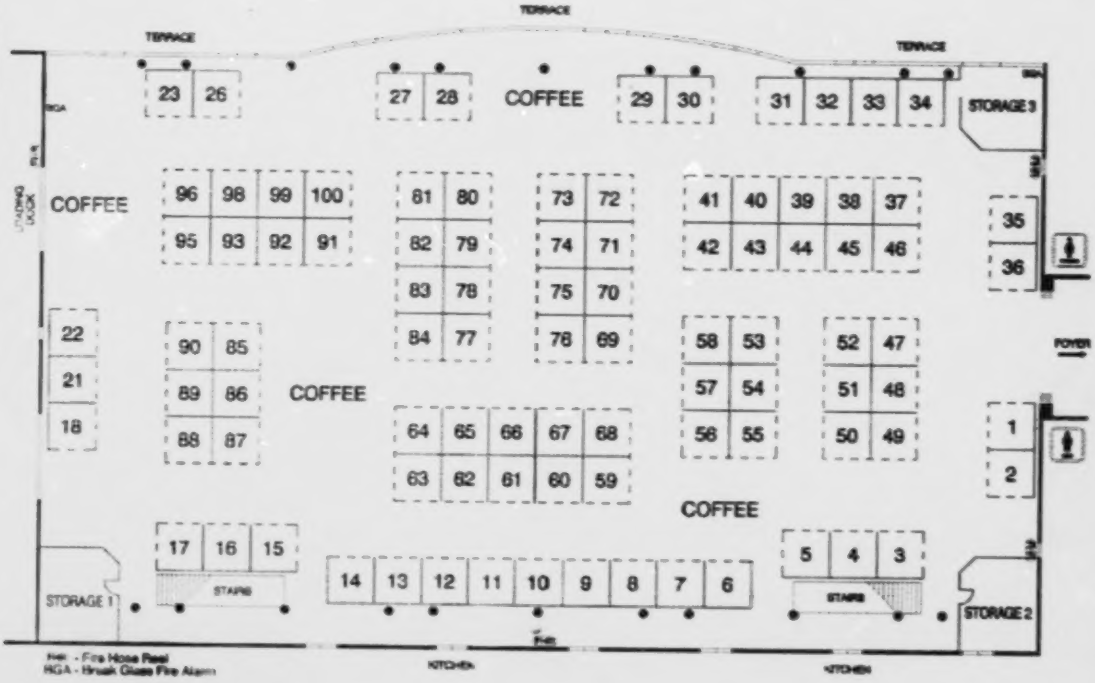
The Conference program and exhibition floorplan have been designed to offer exhibitors maximum contact with the conference delegates. All morning/afternoon teas and lunch time coffee and deserts will take place amongst the exhibition stands.

Additional Information for Exhibitors

Internet Lounge

The Internet Lounge, sponsored by TransACT, with 10-15 computers will be available for ALIA2000 delegates

Floorplan


TERRACE
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STORAGE 3
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FOYER
1
2
COFFEE
17 16 15
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14 13 12 11 10 9 8 7 6
5 4 3
STAIRS
STORAGE 1
STORAGE 2
FHR
KITCHEN
KITCHEN
FHR - Fire Hose Reel
BGA - Break Glass Fire Alarm

Floorplan legend

(1) CYPHER Limited

(2) Talking Tech
(3) 3M Australia
(4) 3M Australia
(5) 3M Australia
(6) National Library of Australia
(7) National Library of Australia
(8) National Library of Australia
(9) Blackwell's
(10) CARL Corporation

(51) University Co-operative Bookshop Limited
(52) Martinus Nijhoff International
(53) NSW State Library
(54) NSW State Library
(55) Mason's Book Centre
(56) Ulverscroft
(57) Impaq Australia
(58) ALIA 2002
(59) QLD Library Supplies
(60) QLD Library Supplies

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(11)
(12) Colour Presentation
(13) Ex Libris
(14) Haworth Australia
(15) epixtech
(16) epixtech
(17) epixtech

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(21) InfoTrain / AIMA / CREATE
(22) InfoTrain / AIMA / CREATE
(23) King Fisher Industries
(24)
(25)
(26)
(27) Endeavour Information Systems Inc
(28) Datacom Systems Pty Ltd
(29) RMIT Publishing
(30) Silverplatter Information Pty Ltd
(31) James Bennett
(32) CAVAL Limited
(33) The Gale Group

(34) The Gale Group
(35) Bell & Howell Information & Learning
(36) Bell & Howell Information & Learning
(37) ISI Thomson Scientific
(38) DA Information Services
(39) Macmillan Academic Reference
(40)
(41) ISA-Rowecom Australia

(42) ISA-Rowecom Australia
(43) Insight Informatics
(44) Identic Books
(45) OCLC Asia Pacific Services
(46) DA Information Services
(47) e-knowledge@ALDIS
(48) Geac Library Solutions
(49) Friends of Libraries Australia
(50) SIRSI Australia

(61) Sanderson Computers
(62) Sanderson Computers
(63) Neschen AG
(64) EOS International
(65) Skai Computers
(66) Dunn & Wilson (Aust) Pty Ltd
(67) Australian Library and Information Association
(68) Australian Library and Information Association
(69) EBSCO
(70) EBSCO
(71) Bermei Business Systems
(72) Eastend Booksellers Pty Ltd
(73) Infovision
(74) HIS Australia
(75) Raeco International
(76) Raeco International
(77) Infosentials Limited
(78)
(79) Swets Blackwell
(80) Swets Blackwell
(81) Baker & Taylor
(82) OVID Technologies
(83) information.studies@csu.edu.au
(Charles Sturt University)
(84) Infosentials Limited
(85)
(86) Softlink Australia Pty Ltd
(87) pieNETWORKS
(88) Skaha Pty Ltd
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(90) Ingram Library Services
(91) Country Public Library Association
(represented by Orange City Council)
(92) Forward Learning
(93) Ingenta Ltd
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(96) Vendalot Pty Ltd
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(99) Foreign Language Bookshop
(100)Southern Scene

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Exhibition
Information for Exhibitors

The National Convention Centre is designed to offer exhibitors the perfect showcase for their products and services. The Exhibition Hall (see map) includes a large pillar-less floor area, drive-in access and undercover loading. The Hall is located just off the main foyer and natural light floods the area. The floor is carpeted to reduce echo and roof trussing facilitates easy mounting of lighting, banners and signs.

Car parking is available for exhibitors underneath the National Convention Centre at a cost of $7.00 per day.

Stand Size and Fees

All stands are 3m x 3m and the fee per stand is A$2340. Multiple stands may be booked and each exhibitor must keep their display within the dimensions of the exhibition booth.

Space Only/Custom Built Stands

If you require space only or will be providing a custom-built stand, please submit your design plans to the Conference Solutions Event Manager for approval.

Additional furniture and equipment for all exhibitors may be hired from the exhibition contractor, Stewart Barlen Exhibition. Stewart Barlen Exhibition will contact each exhibitor directly regarding their stand requirements.

Poster Displays

Poster display boards measuring 2.4m x 1.2m are available for displaying product promotional material. The fee per board is A$400. All boards are covered in velcro-compatible material. This option does not include staffing, meals or furniture. All organisations taking poster display areas will be featured in the Conference Program Guide and Exhibitor Catalogue.

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Exhibitor Package

- Shell scheme display stand with dividing walls 2.4m high finished with velcro compatible fabric
- Quality fascia sign with company name
- Two x 150w spotlights per stand
- One x 4amp general purpose outlet (additional requirements may be ordered)
- Morning/afternoon refreshments for two representatives as outlined in the Exhibition Schedule
- Lunches on Tuesday, Wednesday and Thursday for two representatives
- One complimentary ticket to the Welcome Reception on Monday 23 October
- One complimentary ticket to the Conference Dinner on Wednesday 25 October
- Two complimentary tickets to the Closing Drinks on Thursday 26 October
- Name badges for two representatives
- Company name and contact details listed in the Conference Program Guide
- One conference satchel and materials per stand

Exhibitors' Timetable

Monday 23 October

12.00 noon - 4.30pm Exhibitors set up
3.00pm - 7.00pm Registration
6.30pm - 8.00pm Welcome Reception in Exhibition Hall

Tuesday 24 October

8.30am - 5.00pm Exhibition open
Morning/afternoon tea in Exhibition Hall
Lunch time coffee and desserts in Exhibition Hall

Wednesday 25 October

8.30am - 5.00pm Exhibition open
Morning/afternoon tea in Exhibition Hall
Lunch time coffee and desserts in Exhibition Hall
7.00pm Conference Dinner

Thursday 26 October

8.30am - 3.00pm Exhibition open

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Morning tea in Exhibition Hall
Lunch time coffee and desserts in Exhibition Hall
3.00pm - 6.00pm Exhibitors pack down
4.00pm - 5.00pm Closing Drinks

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Satellite Events

Unless otherwise noted, register for all these activities on the conference registration form.

Monday 16 - Wednesday 18 October

7th Annual Aboriginal and Torres Strait Islander Library Information and Resource Network (ATSILIRN) Conference

Venue: National Library of Australia

Cost:

ATSILIRN Members
Full conference
Early bird by 1 Sept $100.00
After 1 Sept $130.00
Day registration fee $50.00

Non-Members
Full conference & Membership
Early bird by 1 Sept $130.00
After 1 Sept $160.00
Day registration fee $60.00

Students
Full conference
Early bird by 1 Sept $60.00
After 1 Sept $75.00
Day registration rate $40.00

Theme: Cultural survival, cultural revival - the role of information professionals

The Aboriginal and Torres Strait Islander Library and Information Resource Network (ATSILIRN) is a network for information professionals working with Indigenous collections and clients, as well as for Indigenous staff working in the information field.

Each year a conference is held by ATSILIRN with the major aim of raising awareness of current issues facing information professionals and of current projects in this field.

Contact details:

Tracy Lane-Hudson, Secretary
ATSILIRN
c/- Legal Deposit Unit
National Library of Australia
Phone: 02 6262 1111
Fax: 02 6273 4492
e-mail: tlane@nla.gov.au
Web Site

Thursday 19 to Sunday 22 October

2000 ARLIS/ANZ Conference - Arts Libraries Society, Australia and New Zealand

Cost: TBA

Venue: TBA

Please register with Julie Philips
Phone: 02 6208 5112
Fax: 02 6208 5149
e-mail: j.philips@nma.gov.au
Web Site

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Friday 20 to Sunday 22 October

Friends of Libraries Australia - 3rd Biennial FOLA Conference

Cost: TBA

Venue: TBA

Please register with Daniel Ferguson

FOLA National Office
Locked Bag 1315
Tullamarine Vic 3043
Phone: 03 9338 0666
Fax: 03 9335 1903
e-mail: danielf@bolinda.com
Website

Brochure and registration details are available from Daniel Ferguson

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Sunday 22 October, 9:20am to 4:30pm

OCLC Workshop - Creating a New Reference Librarianship

Cost: $220.00 for 1.5 days.

Venue: TBA

Contact: Ann Ritchie
Phone: 02 6230 1231
Mobile: 0413 154 586
e-mail: aritchie@aima.org.au

Presenter: Martin Dillon, Executive Director Emeritus, OCLC Institute

This 1.5 day course is designed especially for reference and public services librarians at all levels. This all new OCLC Institute seminar will help you take a more active role in creating a new reference librarianship in your own career, work unit, library, or larger spheres of influence and concern. Key issue to be explored include:

- How are reference services to be defined in a world of networked knowledge?
- How might innovative metadata systems affect the provision of reference services and the daily work of a reference librarian?
- Can libraries improve upon systems such as AskJeeves? If not, why not?
- Can the co-operative cataloging model extend to reference librarianship? What would 'co-operative reference' look like? How do co-operative cataloging and co-operative reference interrelate?
- Can we create a compelling vision of a preferred future state for reference librarianship and develop specific, achievable near-term actions that begin to bring that vision to pass?

Intended audience: Heads of reference/public services, reference and public service librarians, special librarians, solo librarians, and anyone interested in creating change in reference services.

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Monday 23 October
ALIA Board of Education. Survival, improvement, innovation: how research makes good practice; how practice makes good research
Time: 9:15am to 3:30pmlinks.
Cost: $40.00 including lunch

Venue: University House, Australian National University, Acton

Contact: Marie Murphy
Phone: 02 6285 1877
Fax: 02 6282 2249
e-mail: marie.murphy@alia.org.au

Book early, places are limited.

Monday 23 October
ASSIG/National Acquisitions Section combined AGM and dinner
Time: 7.30pm
Cost: TBA

Venue: TBA

Please register with Jenni Jeremy
Phone: 08 8302 6720/0318
e-mail: jennifer.jeremy@unisa.edu.au

Monday 23 October
ALIA Rural and Isolated Libraries Special Interest Group (RILSIG)
Time: 10:00am to 4:00pm
Cost: TBA

Venue: TBA

Please register with Felicity Williams
Phone:08 8999 8931
e-mail: felicity.williams@nt.gov.au

Speaker: Ken Eustace, Lecturer in Information technology at Charles Sturt University

Aimed at RILSIG members and those library workers who have a smattering of the new technology and now wish to proceed in offering services to clients. Equity of services to isolated, rural and remote clients is a preoccupation of the members of RILSIG. This seminar aims to discuss how Internet technology can be utilised to increase library and information services to the above library clients. This is a topic much discussed over the past few years, and Ken will be adding views to the debate. The seminar will have a practical side where participants will have a chance to work through the theory discussed.

Monday 23 October
ALIA University, College and Research Libraries Section. UCRLS Seminar: Any time any place: virtual information services
Time: 1:30pm to 4:30pm
Registration: from 12.45pm
Cost:
ALIA members $55.00
Non ALIA members $66.00
Concessions $33.00

Venue: Convention Centre

Contact: Nancy Clarke
Fax: 02 6209 1114
e-mail: n.clarke@signadou.acu.edu.au

Library users increasingly expect 24 hour access to all the information they need, from wherever they happen to be. And libraries are now frequently able to meet this need. But are the information services we provide to these (digi-age) users appropriate?

This will be a practical seminar concentrating on how a number of Australian libraries and information services are providing reference services in this digital environment. Speakers include Roxanne Missingham (NLA), Matilda Kolandaisamy (Macquarie University), Karen Borchardt (University of Queensland) and Marie-Therese Van Dyk and Monika Paper

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(Monash University).

There will be opportunities for questions, and exchange with the speakers and your colleagues.

Tuesday 24 October
ALIA Special Interest Group on Information Literacy Annual General Meeting
Time: 12:45pm
Cost: Complimentary

Venue: National Convention Centre
Contact: Prue Mercer
Fax: 03 9669 9645
e-mail: pmercer@slv.vic.gov.au Collect your lunch with all delegates and make your way to the venue.

Tuesday 24 October
ALIA Special Libraries Section Annual General Meeting
Time: 5:30pm
Cost: complimentary

Venue: National Convention Centre
Contact: Christine McLaren
Phone: 0414 503 886
Fax: 03 9878 4727
e-mail: christinemclaren@hotmail.com

Drinks and nibbles will be provided.

Tuesday 24 October
ALIA Schools Section Annual General Meeting
Time: 5:30pm
Cost: Complimentary

Venue: National Convention Centre
Contact: Kris Johnstone
e-mail: krisj@ozemail.com.au

Thursday 26 (site visits) to Saturday 28 October
Customers of Dynix Australia. CODA 2000
any relevant links.
Cost: TBA

Venue: Hotel Heritage, 203 Goyder Street, Narrabundah
Please register with Margaret Kennedy
Phone: 02 6262 1652
e-mail: mkennedy@nla.gov.au

Friday 27 October
Australian Serials Special Interest Group (ASSIG). Serials 2000 - Future Directions
Time: 9:30am to 3:30pm
Cost: ALIA Members $110.00
ALIA Non Members $133.00
Student Concession $44.00

Venue: National Library of Australia
Contact: Jenni Jeremy or Nathalie Schulz
Phone: 08 8302 0318
e-mail: jennifer.jeremy@unisa.edu.au
Phone: 07 3875 5242
e-mail: n.schulz@mailbox.gu.edu.au

Friday 27 October
ALIA National Local Studies Section. Walking tour and look behind the scenes of national institutions.
Time: 10:30am to 5:30pm (approx)
Cost: Complimentary

Contact: Jan Partridge
Phone: 08 9266 7712
Fax: 08 9266 3152
e-mail: jan@biblio.curtin.edu.au

Program
10:30am The National Library of Australia
12:30pm lunch at a convenient café (byo)
1:30pm National Portrait Gallery
4:00pm National Archives - including the AGM

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Friday 27 October

CAVAL Reference Interest Group and ALIA RAISS Seminar and Workshop on Performance Indicators for Reference and Information Services

Time: 9:00am to 4:00pm
Cost: TBA

Venue: TBA

Please register with Rosemary Cotter
Fax: 03 9479 3018
e-mail: r.cotter@latrobe.edu.au

Friday 27 and Saturday 28 October

CAUL Council Meeting (joint meeting with Canadian Association of Research Libraries)

Please contact Diane Costello
e-mail: diane.costello@anu.edu.au

Friday 27 October

EdNA - better Meta: using EdNA's new metadata tools

Time: TBA, approx 2 hours
Cost: TBA

Venue: TBA

Please register with Michael Currie
Phone:03 8344 9578
Fax:03 9347 9106
e-mail: m.currie@dis.unimelb.edu.au

As online resources proliferate, so the need for information professionals to organise and facilitate access to them becomes increasingly important. You have probably heard about metadata, but what is the simplest way to apply it and how can it be used to manage large resource collections?

The managers of EdNA Online, Australia's education and training gateway, recognised the concerns of stakeholders and developed a suite of metadata tools a resource editor for individual sites, a collection manager for simultaneously editing multiple sites and an online thesaurus. These tools are designed to not only to make it easier for collection managers to add sites to the EdNA database but to improve the accuracy and quality of searches against metadata-enabled resources.

Against a background of EdNA's Metadata Standard, this interactive workshop will explore the use of these tools in a library environment. While the session will be of particular interest to cataloguers, all who have a responsibility for or interest in online resources should find it valuable. Participants will receive a copy of the tools as well as a User Guide and associated materials.

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Friday 27 October

CREATE Australia one-day professional development workshop on the implementation of the library industry training package.

Time: 9:00am to 5:00pm (TBC)

Cost: TBA

Venue: National Convention Centre

Please register with Amelia or Dianne

Phone: 02 9211 5342
Fax: 02 9211 5346
e-mail: create@createaust.com.au

This one-day professional development workshop will cover the implementation of the library industry training package.

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Fringe Events

ALIA FRINGE: Beyond the Square

22-23 October, 2000 The Fringe will appeal to library and information professionals who are interested in their own career development and the future of our profession.

The programme is especially aimed at new and recent graduates who are exploring their career options and what they can expect from their chosen profession. It will also provide a forum for networking, updating and exchanging ideas for anyone who is returning to the profession, contemplating a change in direction, or considering working in non-traditional areas.

The Fringe is intended to be informal and interactive. There will be keynote speakers, short presentations from a range of practitioners who have varying experiences and backgrounds, panel discussions where delegates will be encouraged to ask questions, small and large group sessions, and opportunities to network and find a prospective mentor.

Programme

DAY 1: Sunday, 22nd October, 2000

Olim's Canberra Hotel

Corner Ainslie & Limestone Avenues Braddon 12.30 pm

Registration open 1.30 pm

Welcome

Opening Address: John Levett, Editor *Australian Library Journal* **Librarianship beyond the square?**

Following his arrival as an immigrant sponsored by the 'Big Brother' movement in 1951 and after a three-year slow trip round Australia, John began his professional career at Newcastle Public Library. In 1961 he became Chief Librarian at what is now the City of Lake Macquarie Public Library, until appointment as Deputy State Librarian, Tasmania in 1968. In 1970 he was appointed as Head of the (somewhat expansively titled) Resource Materials and Communications Centre at the Tasmanian College of Advanced Education. In 1976 he accepted an appointment as Head of the Department of Librarianship, and was later transferred with the Department to the University of Tasmania. He resigned from the University in 1988, and was a foundling partner in Hill Farm Herbs and Tracklements. In 1990 he became Vice-President of ALIA, President the following year. From 1992-1994 he was Chair of the Graduate Department of Librarianship, Archives and Records at Monash University. He was awarded the Fellowship of ALIA in 1988.

John is at once an avid reader, and an entranced user of the technology. He writes poetry, occasionally rides a motor-cycle, is interested in light aviation and for many years was a gliding instructor. He loves to cook and likes to garden. He has been a member of ALIA since 1954 with occasional intermissions. He is a public librarian at heart, and his preferred occupation is teaching (in librarianship).

2.00pm - 3.00pm

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Session 1 Future Directions Within Libraries

Presenters include a mixture of professionals who are currently practising in libraries where they have challenged the normal ways of operating and done things differently and successfully - they will reflect on their experiences and visions.

Robert Knight Director, Riverina Regional Library	**Superman left in the shade: librarians eclipse traditional superheroes in regional and remote communities**	The role of public library managers in rural, regional and remote Australia is not about keeping catalogues pristine and books in strict order; there is much more important work to be done! The emerging role of public libraries and their staff in these locations has much more to do with community building and sustainability. As services are being withdrawn from many rural communities, the public library is more and more becoming recognised as a community focal point from which a diverse and increasing range of services is being delivered. Library professionals who prefer to shrink from the public and hide in the stacks do not cope at all well with the new face of the public library, which offers excitement, opportunity and diversity for those who are up to the challenge!
Greg Fowler South Australian Human Services Libraries Consortium	**Evidence-based health care - diverse career opportunities for librarians.**	Evidence-based health care is the conscious application of the best available research, together with professional expertise and patient choice, to the planning and delivery of health care services. There are increasing opportunities for librarians to fulfil a diversity of roles in this field. Librarians are actively involved in developing and maintaining summaries of best evidence, in publishing web content to enhance access to and use of EBHC tools, and in training clinicians and health services managers to find and appraise evidence which enhances their work practices. Greg will describe his own experience in working with a Consortium of 14 libraries in South Australia and will highlight international career trends in health librarianship.
Roxanne Missingham Director, Information Services, National Library of Australia	**Switch on! You're going places**	Roxanne will talk about changes in provision of reference services and the new career opportunities this is creating in librarianship. She will highlight the importance of being plugged into the future and will identify some of the new innovations in libraries including 24-hour information service delivered over the Internet. She will discuss what skills base are required and what challenges there are for work in reference and the marketing of library services

3.00 pm - 3.30 pm ***Afternoon tea***

3.30 pm - 4.30 pm

Session 2 Future Directions Outside Libraries

Short presentations from professionals who are now working outside libraries. Speakers represent a range of experienced professionals who are working outside the traditional library sphere. They will reflect on how the professional skills and values of librarians have affected their success in non-traditional areas.

Concurrent session 2A

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Nerida Clarke Bid Manager Telstra Retail, Telstra Corporation	**From Special Libraries to the IT&T industry**	In entering the profession of librarianship many new entrants do not realise that what they are about to gain is a skill set (or tool box) which will allow them not only to make a broader contribution to their organisations (particularly in the special library environment) but also to move easily into related information professions should they wish to make that transition. Nerida will discuss the contents of the 'Tool Box' and will explain how a number of librarians have used these skills to further enhance and change their careers. Nerida will explain how she has used her librarianship 'Tool Box' gained through a number of years working in libraries to successfully take on new roles within the Australian Sports Commission (her former employer) and to make the transition to the wider Information Technology and Telecommunications industry.
Mary-Anne Rose, Project Manager /Senior Business Analyst (IT), Australian Stock Exchange	**Life before Libraries: From Law to IT via the library**	Mary-Anne originally practised law and moved to managing legal information. She perceived the need for someone to bridge the gap between the users (lawyers) and IT staff in relation to information system requirements. She identified the need for a basic understanding of IT in the context of information management and embarked on an Information Studies degree with a computing major. Her first job was as a Business Analyst, Market information at the ASX. She worked with electronic data feeds of live stock market trades and quotes. Mary-Anne will talk about the skills that she has developed and the various roles that she has adopted using her information management skills and knowledge of technology.
Carolyn Cherrett Academic Consultant and Marketing Manager, Ebsco Information Services	**Business skills - stepping stones to the corporate world**	Can working in libraries be an effective springboard into the corporate world? Are there skills we learn at library school that will help us make this leap? What are the skills we acquire through working in libraries that will add to the skill subset suitable for the business sector? What personal attributes do you need to succeed? Everyone agrees that skills learnt are stepping stones to other places, but many people fail to realise that these stones are not set in concrete. You can pick them up, change their order, juggle the subsets and build yourself paths to a myriad of exotic and lucrative locations. Carolyn will talk about skills development - looking at the professional skills library staff use that are invaluable in a business environment, and the kind of interpersonal skills you might recognise in yourself that will serve you well in the corporate sector.

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Linda Magee, Content Manager, CHOICE Online	**Taking the risk**	Linda will talk about the importance of identifying and taking opportunities to develop a marketable skill set. Linda will reflect on her own experiences in libraries including a number of roles at the State Library of New South Wales, her secondment to the Premiers Department and her current role as Content Manager at CHOICE Online.

Concurrent Session 2B

Speaker		Abstract
Sue Scott, Director, Online Legal Access Project, Law Foundation of New South Wales	**Outside looking in**	Sue is currently working at the Law Foundation of New South Wales carrying out research and standards work in online access to the law. Sue will talk about how the knowledge and skills she gained through working in libraries have helped in her current position. She will also discuss the different perspectives she has gained from working in a non-library environment.
Jenny Novak, Information Centre Co-ordinator, NEMMCO & **Cynthia Love,** Manager, Service Development, CSIRO	**Taking your skills outside the library**	Jenny and Cynthia will talk about the transition from Special Librarian to working in information management outside libraries in their respective organisations. Jenny co-ordinates the information centre and website at NEMMCO and Cynthia manages the CSIRO external website and intranet.
Kevin Brennan Senior Project Officer Fairfield City Council	**Life after libraries? Of Course!**	Kevin worked in Public Libraries for 13 years before taking up a new position in the Strategic Planning Unit at Fairfield City Council. Kevin will talk about his experience of moving from a public library to a multi-disciplinary team in local government. What are the perceptions of librarians by people from other professions - good and bad? Whatever these perceptions are, librarians can bring a surprise package of transferable skills to non-library jobs. Strong technology, people and management skills are needed everywhere. Kevin now works in a multi-disciplinary team full of planners, engineers, and the like - how does a librarian fit in? What roles can we have in have a totally outcomes focused team? In his presentation Kevin will discuss these issues and try to answer the BIG question... ...would you go back to libraries after a few years away?

4.30 pm - 5.30 pm

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Session 3 Career Planning

Leonie Blair, AIMA Training and Consultancy Services

Leonie's experience in information services extends over local government, higher education and the vocational education and training sector. Prior to becoming Manager of Training and Development Services at AIMA in 1998, Leonie's career spanned 13 years in academic libraries (most recently as Associate Librarian (Information Services) at the University of Technology, Sydney) and 9 years in public libraries. This breadth of perspective is complemented by deep skills in human resource development - skills for knowing and growing the emerging generation of information professionals through focussed, high quality training and development programmes.

6.30 pm

Buffet dinner Olim's Canberra Hotel

$19.50 pp (not including drinks)

Day 2: Monday 23rd October, 2000

National Convention Centre

9.30 am - 10.30 am

Keynote Addresses

Professor Mairéad Browne, Professor & Dean, University Graduate School, University of Technology and ALIA President

Enduring values and their impact on a career

Mairéad planned a career as an archaeologist, but on the spur of the moment decided to take a year out to complete a Graduate Diploma in Librarianship. This opened a whole new world and way of thinking, so that in the end she abandoned archaeology for librarianship. As her career twisted and turned through the university sector in two countries, the problem-solving strategies and values Mairéad acquired through the study and practice of librarianship have been a foundation of the way she has operated in very diverse career positions.

June Garcia, CEO CARL Corporation,

Must one work in a library to be a real librarian?

For the past year June Garcia has been the CEO of the CARL Corporation, a library automation vendor that provides hardware, software and other services to large library systems or consortia. Before that, she worked in public libraries for 29 years. This transition has caused June to give considerable thought to what it means to be a librarian and to what extent our perception of what constitutes a librarian is derived from a historical assumption that a librarian is a person who works in a library as contrasted to a professionally trained individual who uses his/her knowledge, skills and abilities in a very different organisational setting.

10.30 am *Morning Tea*

11.00 am - 12 noon

SESSION 3 What are prospective employers looking for?

A range of presenters will reflect on the current market, their experiences and strategies for employing library professionals - headhunters, employment agencies, large libraries, mentoring programme organisers; also includes reviews of the research about students' understanding and expectations of their future occupation and where graduates have been employed.

Concurrent session 3A

Speaker	Title	Abstract

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Garry Conroy-Cooper Divisional Manager Information Management Staff by Zenith	**Where are all these damn jobs in the knowledge economy?**	Where are the employment opportunities? Is our perception of the 'library' industry correct? Are we looking in the right places for jobs? Garry will assess the marketplace from a recruitment agency perspective. He will identify the trends in our industry, the skills and personal attributes that employers are seeking from you, and the best methods of accessing job opportunities for the short term and long term.
Dr Vicki Williamson, University Librarian & Director, John Curtin Prime Ministerial Library, Curtin University of Technology	**Flexibility, innovation and professionalism**	Vicki challenges the traditional roles of librarians and will talk about the need for flexibility and innovation in new graduates. Vicki encourages people working in our industry to work outside the Square; she has had experience of a number of mentoring programmes, both within librarianship and beyond. She will talk about her perceptions, experiences and expectations from the employers' point of view, and highlight her experiences of building a staff team to deliver on the vision to create Australia's first Prime Ministerial Library - the John Curtin Prime Ministerial Library.
Kim Farley-Larmour ACT Library Extension Programme Co-ordinator Australian Bureau of Statistics	**The image of Librarians - are we attracting the right skills?**	Kim has recently completed a Master's research which, in part, examined library and information studies students' understanding and expectations of their future occupation. Do those planning to enter the profession have a realistic view of their future occupation? What impact does the public perception of librarians and of library and information management have on recruitment into our profession? How does the reality of library and information management work differ from the perceptions of those planning a career in the profession? Kim will discuss these issues with reference to her role in the ABS.

Concurrent session 3B

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Associate Professor Belle Alderman, Head, School of Information Management and Tourism, Division of Communication and Education, University of Canberra	**What makes a successful Mentoring relationship?**	Belle will talk about what makes a successful mentoring relationship based on her experience with the Partners in Learning (PAL) Programme at the University of Canberra. She will talk about how to assess yourself so that you can approach potential mentors. She will also talk about types of mentoring relationships and strategies for getting the best out of a mentoring relationship.
Helena Zobec Senior Librarian, Canberra Institute of Technology	**Stand out in the crowd: Skills development for a successful career**	Helena will demonstrate strategies and techniques to help you develop skills that give you a competitive edge in the market place. She will talk about the opportunities created through further study and insights from her personal experience.
Dr Paul Genoni, Lecturer, School of Media and Information, Curtin University of Technology	**'Where have all the graduates gone: trends in Library and Information Science graduate employment'**	What is the real picture of where graduates have been employed? Paul will present and discuss the results of research about graduates from Curtin University librarianship courses over the past 5 years. Paul co-facilitated the WA Group Mentoring Programme for new graduates in librarianship and will reflect on this experience to give further insights into the current employment situation.

12.00 - 12.45 pm

Panel discussion

What are the keys to success in the job market for new graduates? A panel of recent graduates will answer questions about their experiences in the marketplace - what gave them the edge in obtaining their first and subsequent jobs in the current environment? What advice would they offer those who are just entering the profession?

David Pietersen, Systems Librarian, City of Armadale, Western Australia	David graduated in February 1999. He spent three years as a part-time library clerk whilst studying, and since graduating has held two positions; 'Librarian- Electronic Information' at Edith Cowan University (12 month contract), and his current position as 'Systems Librarian' for the City of Armadale. David undertook a major in Information Systems, and has developed strong skills in Operating Systems, Database Design and Management, Application Software (Office etc.), TCP/IP, HTML, CGI (PERL 5), ColdFusion, Visual Basic, Java, and many others. These skills are valuable because they have allowed him to develop powerful applications for use on Internet and Intranet sites.

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Ralene Woodbury

Manager, ACT Virtual Library

Ralene grew up in her local public childrens library, and there she had her first taste of 'behind the desk' - checking out books and counting endless lego sets on Saturday mornings. She began working with the ACT Library Service in 1991 while completing her Bachelor of Arts in English and Womens Studies, and has since worked in (nearly) every position the public library has to offer! After completing her Graduate Diploma in Library & Information Management in 1996, Ralene has worked as Childrens Services Librarian; Adult Services Librarian; Branch Manager of the Tuggeranong Town Centre Library (a joint-use college/public library); Information Technology Team Leader, and is currently managing the ACT Virtual Library, a project developing electronic services for ACT Library & Information Services. She can admit to never having been bored with her job, which she attributes to an insane willingness to volunteer for things she's never done before!!!

Alison O'Connor

Blake Dawson Waldron, Melbourne; Law firm

Alison's interest in libraries began at an early age when she would stick call numbers on her family's books and wouldn't allow her sisters to take a book from the shelves unless it was checked out, and had been stamped with a picture of a bear. Needless to say this caused many fights! Alison completed a degree in Information Management at RMIT and graduated in 1998. Her first library position was in a medium size law firm as library/records management assistant during her studies and then as the Librarian. In 1998 Alison joined the library at Blake Dawson Waldron as the Assistant Librarian. The position was originally only for 6 months, however she has been there ever since! In October 1999 Alison took on the position of Melbourne Library Services Manager - at the grand old age of 22. Throughout her time at BDW Alison has also been responsible for developing the library's Intranet pages, and has actively been involved in mentoring programs for new graduates.

Sarah Arundel

Australian Medical Association (AMA) Library

Sarah graduated from University of Canberra in 1998 with a Bachelor of Information Management majoring in Library Studies, majoring in the records management path. Following her 12 month period of work placement at the National Sport Information Centre (NSIC) at the Australian Sports Commission was employed there, then started her contracting career with moves to the O'Connell Information and Resource Centre, the Family and Community Services Library, the Defence Library Service (DLS) and now is at the AMA. I never dreamt about becoming a librarian and literally fell into the course after a couple of failed attempts at a hospitality career. I love being a librarian and I love helping shattering the illusion other people (and professions) have about what we do. Even though I was told in first year uni: 'With a raucous laugh like that, you'll never be a librarian' I have managed to adapt to the circumstances and change other people's expectations of what a librarian is supposed to be like rather than change myself.

Tracy Lane-Hudson,

Librarian, Australian Deposit, Technical Services Branch, National Library of Australia

Tracy is an Aboriginal woman from the Kalkadoon peoples of the Mt Isa region of Queensland. Her initial tertiary studies were in English and Ancient History at the University of Western Australia. She got a taste for working in libraries when she worked as a Library Assistant at Thornlie TAFE College (WA) from 1994 to1996. She became an Indigenous Cadet at the National Library of Australia in 1996 and was appointed to a Librarian position at the end of her cadetship. She undertook a Graduate Diploma in Library and Information Management at the University of Canberra graduating in 1999. Her university studies have helped her develop skills that she has been able to apply to her workplace and other professional activities. Tracy is currently the Secretary of the Aboriginal and Torres Strait Islander Library and Information Resource Network (ATSILIRN), maintains the ATSILIRN web site and is the Convenor for the ATSILIRN 2000 Conference. She is also studying towards a Master of Arts (Information Studies).

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12.45pm - 1.45pm *Lunch*

1.45pm - 2.45pm

Session 4: Future directions - other alternatives

Presenters will explore alternatives and options, opportunities for gaining experience through professional practice, further study, lobbying, study grants and other awards

Concurrent session 4A

Ann Luzeckyj, Research and Development Librarian, University of South Australia Library	**A foot through the door - Do you feel your course adequately prepared you for work?**	The University of South Australia Library offered a Certificate in Library Professional Practice (CLPP) in response to a need expressed by graduates within South Australia. This session will provide a contextual basis to the CLPP programme, briefly outlining its, aims, objectives and developments to date. The session will also consider other work experience models and discuss the challenges that face new graduates.
Jan Richards, Manager, Central Western Cooperative Public Library	**I can't take any more excitement**	'I can't take any more excitement' will encourage participants to consider the opportunities afforded today's library through co-operative ventures and alliances. Creative use of these can allow libraries to re-position themselves within their communities through expanded and enriched services, at the same enhancing career development for staff. Jan will highlight the need for Libraries to stay alert to ever changing trends, dynamics and community moods in order to optimise their chance of success and suggest ways of monitoring these. Although many of the examples used to illustrate individual points will be based on Jan's experience in regional and rural public libraries they will be easily transferable to a metropolitan situation or to libraries in other sectors.
Michael Robinson, Manager, Business Development Services RMIT University Library; Past-President, VALA	**New Members Welcome: the library professional and the professional association.**	Based on his experience with the activities of the Victorian Association for Library Automation, Michael will explore some of the career, research and learning opportunities which are available through library-related professional associations.

Concurrent session 4B

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Carolyn McSwiney, PhD, Monash University	**Think globally!**	Carolyn was formerly Librarian, University of Notre Dame and is currently studying towards a PhD at Monash University. Carolyn will talk about what's happening in the area of globalisation/ internationalisation and how to turn an awareness of these issues to advantage yourself and your clients - in the workplace. She will include practical examples from Australian and offshore libraries and CPD tips.
Terena Solomons Librarian, Hollywood Hospital	**The value of overseas experience**	Interested in travelling the world but are worried about the gap it creates in your resume? Concerned that the travel fund won't stretch far enough for a year's sojourn? Why not consider a working holiday and combine work with play! Terena will discuss the benefits and value of overseas work experience. She will highlight the skills and knowledge she gained whilst working in the UK on a number of library and library-related projects and will outline how the overseas work experience benefited her career on return to Australia and opened up new opportunities.
Chris Williams, Director, Library and Information Services, State Library of New South Wales	**Learn or languish: Libraries in the community**	Chris has been involved in developing and implementing many innovations to enhance the libraries role in the local community. Chris will talk about the importance of libraries in the community from his perspective as former Manager of Newcastle City Library, and in his current role in the State Library of New South Wales. He will use recent examples from his experience including development of partnerships, sponsorships and a mobile training centre. He will talk about what has made the projects successful including what important skills librarians have brought to the project.
Heather Fisher Teacher-Librarian,The Cathedral School, Grafton	**Traveling the Yellow Brick Road**	Heather will talk about her career path (kind of twisty track really rather than a path!) and the part a Travel Grant has played in the events that have happened. She says she can also testify to the benefits of having a few strings to one's bow so that there are always a few options. Heather also has experience in Public Library/the community partnerships (the teacher librarians involving the Primary and the Secondary Associations, a Headstart Program, the Literacy Network, the Children's Book Council, the Children's - Interagency, the Arts Festival, etc...)

2.45 pm *Afternoon tea*

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3.15 pm - 4.45 pm

Session 5 Small group discussions

This will give participants a chance to talk to the presenters in small groups, asking any questions they want to follow up from the presentations or on particular topics of interest.

Topics/presenters of interest - small group discussions (30 mins x 3) concurrent sessions of small groups led by presenters/mentors: 3.15 pm, 3.45 pm, 4.15 pm. Participants can sign up at lunch-time for 3 sessions. Most of the presenters have indicated that they will be available to facilitate these small group sessions, and we are also willing to create new groups as topics of interest arise during the conference sessions. The details will be finalised on the day.

4.45 pm Closing and handover to main programme: Ian McCallum, Director, Libraries Alive!

Ian began his career in 1969 at the National Library of Australia where he was pioneer in various aspects of library automation and especially information retrieval systems. In 1972 he was seconded to IBM Systems Development Institute to work on Australia's first batch then online information retrieval systems. In 1979 he moved to ACI Computer Services (later Ferntree Computer Corporation, later GE Capital IT Services). His roles included: technical development then profit centre management for AUSINET; Curriculum Corporation schools' database project; Structured Information Manager commercialisation with RMIT; plus the development of commercial services in information management education, professional consultancy and technology assessment. Ian was a member of the Ferntree Executive, and until resigning in 1997, head of the Information Management Division with responsibility for a 30-person team providing library and information management systems and services throughout Australasia. He then established *Libraries Alive!* P/L, an Australian consulting company with a mission to bring a customer-centric, pragmatic approach to the issues surrounding library and information management.

Ian was the recipient of the 1983 RD Williamson Award for outstanding contribution to the development of information science in Australia. He was National President of ALIA in 1986 and was awarded a Fellowship of the Association in 1989. Ian has a strong interest in the development of new library professionals and has been a mentor at every Aurora leadership institute in Australia and at two Snowbird institutes in the US.

5.30 pm - DRINKS before the MAIN CONFERENCE Opening

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Internet Cafe sponsors

TransACT

Other sponsors

Blackwell's Book Services
Bermel Business Systems

Information for prospective sponsors

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Venue
The Host City

The National Capital offers the perfect environment for fresh ideas and positive interaction for the ALIA 2000 conference. Canberra is a place where people have always gathered. Even the name is appropriate, being the Aboriginal word for 'meeting place'. Canberra is home to the national parliament, many major national institutions and host to nurmerous national and international events. Canberra's world class facilities and national attractions merge harmoniously with the bushland environment.

As expected from a diplomatic city, restaurants abound along with an impressive array of galleries, museums, theatres, exhibitions and other attractions.

The temperature at this time of the year is a pleasant 20 degrees C during the day but can be as low as 8 degrees C at night.

Local Transport

Taxis are readily available 24 hours a day. The local taxi company is Canberra Cabs - phone 132227. There is a taxi phone located in the foyer at the reception desk of the National Convention Centre.

Canberra also has a reliable local bus service available. The local bus company is ACTION. You can find out more information about fares and timetables on their website.

The Conference and Exhibition Venue

The National Convention Centre is centrally located Canberra's business district, adjacent to the ParkRoyal Canberra and the casino, and close to restaurants and shopping. The centre just seven kilometres form Canberra airport, also offers underground parking with direct access to the main foyer.

Registration desk

The conference registration desk will be situated in the Foyer of the National Convention Centre. The desk will be open from:

3:00pm - 7:00pm on Monday 23 October
7:30am - 5:30pm on Tuesday 24 October
8:00am - 5:30pm on Wednesday 25 October

8:00am - 5:00pm on Thursday 26 October

Internet café

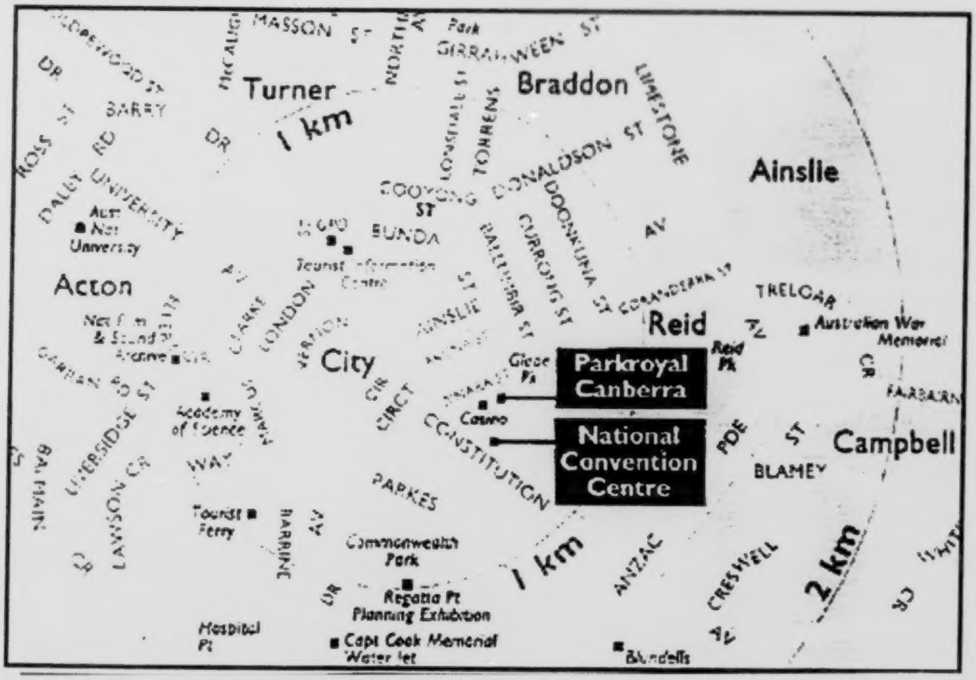
The conference internet café will be located on the first floor, just above the Exhibition Hall. Conference delegates will be able to surf the net and check their e-mail during the conference. The café will be open from 8.00am to 5.00pm every day.

Car parking

Undercover car parking is located under the National Convention Centre at a current charge of $7.00 per day. Open-air paid parking is also available across the street from the Convention Centre at a current charge of $6.00 per day.

The National Convention Centre is designed to offer exhibitors the perfect showcase for their products and services. The Exhibition Hall includes a large pillar-less floor area, drive in access and undercover loading. The Hall is located just off the main foyer and natural light floods the area. The floor is carpeted to reduce echo and the roof trussing facilitates easy mounting of lighting, banners and signs.

Canberra City Map


MASSON ST
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DONALDSON ST
COOYONG ST
TORRENS
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Ainslie
Aust Nat University
BUNDA
DOONKUNA ST
CURRONG ST
AV
Tourist Information Centre
Acton
CONDAMINE ST
TRELOAR
Reid
Australian War Memorial
Nat Film & Sound Archive
CLARKE
LONDON
VERNON
City
AINSLIE
Glebe Pk
Reid Pk
CR
Parkroyal Canberra
FAIRBAIRN
Casino
Academy of Science
CIRCT
National Convention Centre
CONSTITUTION
PDE
ST
Campbell
BLAMEY
LAWSON CR
WAY
PARKES
Tourist Ferry
BARRINE
AV
Commonwealth Park
1 km
ANZAC
CRESWELL
2 km
Regatta Pt Planning Exhibition
Hospital Pt
Capt Cook Memorial Water Jet
Blundells
AV
CR

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EVENTS

calendar	ACT	NSW	NT	QLD	SA
TAS	VIC	WA	national	**conferences**	requests

The following is a listing of conferences that are also mentioned in the *Events* section of the current *inCite* magazine. We list conferences sponsored by ALIA or organised by ALIA divisions (split into years), and have another briefer listing of non-ALIA conferences of interest to the library community. The links below take you to all of these pages.

Please contact us if you would like to include your conference, or if you feel that the library and information community would benefit from having a particular conference mentioned that is not currently listed.

1997 1998 1999 2000 2001 2002 2003 non-ALIA conferences

Conferences planned in the coming months...

- **21-24 August 11th National Library Technicians conference.** An information odyssey... The Hotel Grand Chancellor, Hobart Tas. Conference organiser: Mures Convention Management, ph 03 6234 1424, fx 03 6234 4464, conventions@mures.com.au
- **26-29 August 9th Special, Health & Law Libraries conference.** Rivers of knowledge. Melbourne Convention Centre, Melbourne Vic. Conference secretariat: The Meeting Planners, ph 03 9417 0888, fx 03 9417 0899, adocherty@meetingplanners.com.au
- **12-14 October 2001 RAISS conference.** Revelling in reference 2001 -- reference and information service section symposium. Symposium themes: share the best; learn the new; make the difference. VUT Conference Centre, Melbourne Vic. Conference convener: Margaret Smith, ph 03 9669 9726, MSmith@slv.vic.gov.au
- **21-23 October 2001 National TAFE libraries conference.** Passion power people -- TAFE Libraries Leading the Way. Sheraton Hotel, Brisbane Qld. Conference secretariat: Organisers Australia, PO Box 1237, Milton Qld 4064, ph 07 3369 7866, fx 07 3367 1471, vanessa@orgaus.com.au **Please note correct dates.**
- **7-9 November 2001 14th National ALIA Cataloguing conference.** Seachange: cataloguing in a dot com world. Deakin University, Geelong Waterfront Campus. Conference chair: Ebe Kartus, kartus@deakin.edu.au
- **12-16 November 2001 Public Libraries national conference.** *2001: The conference - Endless possibilities!* Melbourne Exhibition & Convention Centre Vic. Conference secretariat: Conference Consultants Australia, ph 03 9690 3933,

fx 03 9690 3944, alia@conferenceconsultants.com.au

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http://www.alia.org.au/conferences/index.html

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Social Events and Tours

Conference Social Program

Other Social Program - Library Tours

Your invitation to ALIA House

ALIA House is conveniently located approximately fifteen minutes from the National Convention Centre at 9-11 Napier Close, Deakin. It is home to ALIA National Office and its staff.

ALIA members attending the ALIA 2000 conference are warmly invited to come and enjoy a cup of coffee in the friendly atmosphere of ALIA House, meet with ALIA National Office staff, utilise the informal members lounge which will be available for 'time-out' during the conference, or make use of private meeting facilities. Enquiries and bookings should be directed to the office on 02 6285 1877 or e-mail enquiry@alia.org.au.

ALIA National Office staff will be available to meet with members at the ALIA stand at the conference venue or members may wish to arrange to meet with staff at ALIA House.

We look forward to seeing you there.

Monday 23 October
Welcome Reception

Cost: $22.00
Included in full registration fee

Time: 6:45pm to 8:15pm
Location: Exhibition Hall - the National Convention Centre

Take the opportunity to view the exhibition booths while enjoying some drinks and nibbles.

Sponsored by James Bennett.

Tuesday 24 October
First Timers Breakfast

Cost: $17.00
Not included in full registration fee

Time: 7:00am to 8:30am
Location: The National Convention Centre

This is an opportunity for the First Timers to the ALIA Conference to meet over breakfast.

Tuesday 24 October
National Library of Australia Reception

Cost: $15.00
Included in full registration fee

Time: 6:00pm to 7:30pm
Location: The National Library of Australia

Take the advantage of an excellent opportunity for networking. The Library will remain open until 10pm. Coach transfers will be organised.

Jointly sponsored by the National Library of Australia, the ACT Government and ALIA.

Wednesday 25 October
Conference Reception

Cost: $25.00
Not included in full registration fee

Time: 6:30pm to 8:00pm
Location: Parliament House

Come and enjoy drinks and/or dinner in this spectacular building and dance the night out. Conference Reception (only)

Wednesday 25 October
Conference Dinner

Cost: $85.00
(includes conference reception)
Not included in full registration fee

Time: 8:00pm to midnight
Location: Parliament House

Dress Code: Cocktail wear and dancing shoes

Celebrate the conference in magnificent style with old and new friends. The impressive Great Hall provides a spectacular venue for a fantastic evening of fine food, drinks and music. Bus transport will be provided from hotels to Parliament House and return.

Thursday 26 October
Closing Drinks

Cost: $15.00
Included in full registration fee

Time: 4:30pm - 5:30pm
Location: The National Convention Centre

This is the last opportunity to discuss the outcomes of the conference and say farewell to your new and old friends and colleagues.

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Accomodation and Travel

- Accomodation
  - Preferred Hotels
- Conference Airline

Accomodation

Accommodation has been reserved for delegates at the hotels listed below. Favourable tariffs have been negotiated and the rates quoted are on a per room per night basis. These discounted rates are available only through Conference Solutions. Whilst we are confident that sufficient accommodation will be available for delegates, it is advisable to book early to secure your first preference. It is important to note there are a limited number of accommodation rooms available for people with disabilities. Delegates requiring these facilities are encouraged to register early and indicate your requirements in the Special Requirements' section of the registration form.

Registration forms and requests for bookings must be accompanied by a deposit equal to one night's tariff. All delegates are responsible for paying the balance of their account when checking out. Personal or company cheques are not accepted by hotels unless prior arrangements have been made with the hotel concerned. Due to hotel requirements all bookings must be confirmed by Friday 22 September. After this date bookings can only be secured on an availability basis and cannot be guaranteed. Please book early to avoid disappointment.

Alterations and Cancellations

Alterations to or cancellations of hotel accommodation may be made via Conference Solutions until Monday 16 October. Cancellations giving less than 48 hours notice may incur a penalty at the discretion of the hotel.

Preferred Hotels

HYATT

Hyatt

★★★★★

Commonwealth Avenue
Yarralumla

$214.50
single/twin/double

Commonwealth Avenue, Yarralumla The Hyatt Hotel is Canberra's only five star property and is situated just 2 minutes drive from the city centre and the National Convention Centre or alternatively a twenty minute walk to the National Convention Centre. The historic building is surrounded by landscaped lawns and gardens and has a heated indoor pool and gymnasium.

Fact Sheet

PARKROYAL
HOTELS & RESORTS

Park Royal

★★★★

1 Binara Street
City

$185.00
single/twin/double

Parkroyal Canberra is a modern and stylish hotel located next to the National Convention Centre and the Canberra Casino. The hotel overlooks Glebe Park and is ideally located in the city centre.

WALDORF

Waldorf Apartments

★★★★

2 Akuna Street
City

$140.80 - Studio rooms - single/twin/double
$154.00 - One bedroom apartment - single/twin/double
$192.50 - Two bedroom apartment - single/twin/double

This brand new property is situated only five minutes walk from the National Convention Centre, Canberra Casino and the city centre.

SAVILLE
Park Suites
Saville Park Suites

★★★★

84 Northbourne Avenue
City

$135.00 - Hotel room (includes 1 buffet breakfast) single/twin./double
$155.00 - One bedroom suite single/double

This four star style accommodation has a restaurant located on the premises and is just a short walk to the city centre. This property is only fifteen minutes walk to the National Convention Centre.

Novotel Canberra

★★★★ **65 Northbourne Avenue**
City

$139.00 single/twin/double

This brand new property is 5 minutes walk from the city centre. The city's interstate coach terminal is also located within the complex. The Novotel is just ten minutes walk to the National Convention Centre.

RYDGES
CANBERRA
Rydges Canberra

★★★★

London Circuit
City

$130.00 single/twin/double

The hotel boasts a central location on the shores of Lake Burley Griffin and is only a five minute walk to Civic. Rydges Canberra is approximately ten minutes walk from the National Convention Centre.

Quest Apartments

★★★★

**Melbourne Building,
26 West Row
City**

**$129.00 - Studio room - single/double
$144.00 - One bedroom - single/twin/double
$154.00 - One bedroom deluxe - single/twin/double**

The Quest Apartments is conveniently located just 2 minutes from the heart of Canberra and is just 10 minutes walk to the National Convention Centre.

Kythera Motel

★★★ **100
Northbourne Avenue
City**

$100.00 - single/twin/double

The Kythera is a budget style motel that is close to the central business district and with easy access to the many tourist attractions of Canberra. The Kythera is approximately fifteen minutes walk to the National Convention Centre and ten minutes walk to the city centre.

Dickson Premier Inn

★★★★ **Cnr
Badham & Cape Streets
Dickson**

$98.00 - single/twin/double

This brand new property offers larger hotel rooms than your average hotel and is conveniently located at the Dickson Shops, the China Town of Canberra which offers a range of restaurants. Only seven minutes drive from the City Centre and the National Convention Centre and there is also a local bus service available that runs every twenty minutes on weekdays from Dickson Shops into the city.

Quality Inn Downtown

★★★ **82
Northbourne Avenue
City**

**$100.00 - Standard room - single/double
$110.00 - Corporate room - single/twin/double
$125.00 - Deluxe room - single/twin/double**

Quality Inn Downtown is a budget motel which is situated only minutes walk from the city centre. Conveniently located approximately ten-fifteen minutes walk to the conference venue.

Canberra Rex

★★★ **150 Northbourne Avenue City**

$99.00 - single/twin/double

Situated within easy walking distance of the central business district. The Canberra Rex also has restaurant facilities on the premises and is approximately five minutes drive from the National Convention Centre.

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Online Registration

Online Registration Form - With Secure Access

Full and student registration fees include:

- Attendance at sessions on Tuesday 24, Wednesday 25 and Thursday 26 October
- Lunch, morning and afternoon teas on Tuesday and Wednesday, lunch and morning tea on Thursday
- Ticket for the Welcome Reception on Monday 23 October
- Ticket for the National Library of Australia Reception on Tuesday 24 October
- Ticket for the Closing Drinks on Thursday 26 October
- Name badge and conference materials
- Access to the Trade Exhibition
- A copy of the Canberra Survival Guide

Day registration fees include:

- Attendance at sessions on the nominated day
- Lunch, morning and afternoon teas - Please note that there is no afternoon tea on Thursday 26 October.
- Name badge and conference materials
- Access to the Trade Exhibition.

Conference proceedings

The conference papers will be posted on the conference website after the conference. Please note that the conference proceedings will not be printed.

Cancellations

Any alterations or cancellations for the conference must be notified in writing by post, facsimile or e-mail to the conference secretariat:

Conference Solutions
PO Box 238
Deakin West ACT 2600
Ph 02 6285 3000
Fax 02 6285 3001
e-mail alia2000.conference@alia.org.au

Cancellation fees - Full registration fee less an administration fee of $80 will be refunded to any participant cancelling before Friday 22 September.

Refund for cancellations after that date will not be possible unless exceptional circumstances prevail. Should you be unable to attend, substitute delegates are welcome at no additional cost.

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News

Exhibition Floorplan Modified (October 2000)

The arrangement of the Exhibition Booths has been changed.

James O'Loghlin Confirmed as Closing Speaker (August 2000)

Comedian and former lawyer James O'Loghlin will present a heretical view of the fate of Information and Information Providers in the 21st Century to close ALIA 2000. O'Loghlin hosted his own show earlier this year on ABC TV and makes regular appearances on Good News Week, the Triple J Breakfast Show and at comedy venues around the country.

Indicate Your Session Preferences (July 2000)

To help the Committee arrange suitable accommodation for the various sessions we request that you use the program form to indicate your session preferences.

Online Registration Available (July 2000)

The conference registration form is now available for browsing, booking and secure credit card payment if you require.

Social and Fringe Events Announced (July 2000)

More details have been released on the conference social program, fringe events, library tours, satellite events and other social events.

Speaker Profiles (July 2000)

A number of Speaker profiles are now available and more will follow as they become available.

Information for Exhibitors (June 2000)

Information for exhibitors including parking, special requirements and the exhibition timetable now available.

Latest Version of Program (May 2000)

The latest version of the Conference Program is now available. A detailed Session Description is also available.

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Comments

Please go to the ALIA 2000 Conference home page to see the members of the Conference Committee and their various roles. Click on their name to send an email message to the contact for the area you wish to comment on.

Comments on the website itself can be sent to Kerry Webb who's taken over from the long-suffering Alan as the maintenance guy.

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FAQs

Why aren't there any FAQs?

Because nobody has ever asked me anything frequently before.

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Australian Library and Information Association

PO Box E441
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AUSTRALIA
ph 02 6285 1877
fx 02 6282 2249
enquiry@alia.org.au
www.alia.org.au
ACN 090 953 236

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The Australian Library and Information Association [ALIA] is the professional organisation for the Australian library and information services sector. It seeks to empower the profession in the development, promotion and delivery of quality library and information services to the nation, through leadership, advocacy and mutual support.

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HOT TOPICS...

Library and Information Week

Libraries 2001: knowledge outlook - **promote your library** during LIW [14-20 May]. New info posted.

Send an ALIAnet greeting card

A new range of **electronic greeting cards** for friends, family, and associates.

New copyright notices

Amendments to the *Copyright Act* require new library **pro forma notices**.

Form a new group now!

Follow this link if you are interested in **forming a new division** of ALIA.

Want to chat?

We've finally installed a **chat server** - drop in and see who's talking.

ALIA events calendar

Our monthly calendar of **ALIA events** -- send in those updates!

Australian dictionary of acronyms and abbreviations

David Jones' 5th edition of **this useful tome** is on sale now.

Interlibrary lending

A new section devoted to **ILL** and ALIA's voucher system, including information on the GST.

Vital Link Online

A fully-automated list of **ALIA office-bearers** -- but we still need your updates.

What's our view on privacy?

ALIAnet's **privacy statement** outlines how we use the data that we may collect on-site.

Have you joined aliaNEWS yet?

Around once a month, **receive e-mailed updates on ALIA actvities**. Next issue soon!

Welcome to the ALIA home page

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Search

This page offers the opportunity to search for text in documents across the entire ALIA2000 Conference site.

Instructions: Type in the word or words you are searching for (choosing either 'all words' or 'any of the key words' in the drop-down menu), then choose to sort the results by the criteria shown.

all

relevance

normal

Search ...

Macintosh users: We have a specialised Sherlock plug-in, too! You may prefer to use this for searches - faster, and more powerful!

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Proceedings

The conference papers are being posted here progressively. Please be patient - bottom of the page footnotes aren't easy in html.

Please note that the conference proceedings will not be printed.

Full papers have been peer reviewed in accordance with DETYA guidelines.

Papers presented at the main Conference

- Rod Badger - The 21st Century Information Environment
- Trevor Barr - User Perspectives of the Future of the Internet
- Tony Barry - The User Interface: glitz versus content
- Chris Batt - Public Libraries in a Wired World
- Barbara Biggins & Elizabeth Handsley - Censorship in Public Libraries
- Karen Bishop - Heads or Tales: Can Tacit Knowledge Really be Managed?
- Maxine Brodie - The impact of change on research libraries: the State Library of New South Wales
- Jo Bryson - Building a Knowledge-based Economy and Society
- Jo Bryson - Value and Performance in the IT society
- Kerry Burgess and Therese Lake - Reading Minds: adding value to services at the State Library of New South Wales
- Alan Bundy - Best Value: Libraries
- Margaret Butterworth - The Entrepreneurial Public Library: the Policy and Practice of Fee-based Services
- Alex Byrne - Today I want to Talk about Piracy
- Ainslie Dewe - Library Industry Statistics for the 21st Century
- Peter Donoughue - 'Free at Last' - Information in the New Digital Age
- Dr Bill Donovan - Keeping the Elderly Young: Adult Education Today
- David Emery - Intellectual Property: Access and Protection
- Stewart Fist - Infrastructure and convergence issues
- Oliver Freeman - From pre-shopping to e-shopping: the new online world for consumers
- Anne Galligan - Libraries and Literary Outcomes: A Crucial Intersection in the Cultural Field
- José-Marie Griffiths - Provider Roles: the Information creator and

the roles of the Information professions

- José-Marie Griffiths - Ensuring Effective Access to Library Services - the Digital Divide
- Helen Hasan - Development of Information Literacy: a Plan
- Brian Hawkins - Libraries, Knowledge Management, and Higher Education in an Electronic Environment
- Helen Hayes - The Impact of Change at the Melbourne University Library
- Paul Hetherington - Cultural Exploration: Publishing the Donald Friend Diaries
- Geoff Huston - Views of Technology Futures: an Internet perspective [PDF]
- Cedric Israelsohn - Overview of Knowledge Management/Portal Delivery
- Christine Johnston - The Business of Knowledge Management in the Knowledge-aware Organisation
- Jay Jordan - Information Needs in the Consumer Society - a Technological Basis
- Dr Brewster Kahle - Upgrading each Library to be World Class
- Maureen Kahlert - Lifelong Learning - A Public Library Perspective
- Nikki Kallenberger - Taking the initiative: Ensuring an educational role for libraries in the information society Stream: Education and information literacy
- Jan Kaye - The Greying of the Teacher Librarian
- Philip Kent - You Must Like Reading if You Work in Libraries
- Robert Knight - Access to Service: Rural and Remote Communities
- Sally-Anne Leigh - Resource Discovery within the Networked "hybrid" library
- Edward Lim - The Last Book: The Delivery of Future Content
- Sophie Masson - Imagination's Stronghold
- Moyra McAllister - The Bottom Line: Performance Measurement in a Corporate Library
- Felicity McGregor - Performance measures, benchmarking and value
- Prue Mercer - Changing our future: issues in leadership and management skills and the information profession
- Michael Middleton - Self service: what is the function of the new intermediary?
- Michael Middleton - Education rap: a brief summary of educational implications of material presented at ALIA2000
- Roxanne Missingham - Virtual services for virtual readers: reference reborn in the E-library

- Jennefer Nicholson - To market, to market to buy a fat pig
- Kay Poustie - Whither Australian Public Libraries
- Victoria Richardson - The Market for Information
- Janice Rickards - Flexible Learning Developments
- Catherine Riordan - Intellectual Property: Setting the scene for the 21st century: Privacy aspects
- Sheridan Roberts - Official statistics on the online society
- Anne Robertson - Enabling Best Practice Recordkeeping in the Digital Age
- Sabina Robertson and Shirley Sullivan - The rediscovered agents of change: librarians working with academics to close the information gap
- Richard Sayers - Learning to be ourselves, with more skill: Aurora and beyond
- Jeremy Shearmur - Content for the Future
- Nick Smith - Speech for ALIA 2000
- Chris Trevitt - Flexible learning in higher education: examining the case for the 'learning profession' and the 'learning discipline'
- Rob Tucker - Skills for Systems Support
- Dr Paul Turnbull and Chris Blackall - A New Foreign Country: The Challenges and Risks of Making History in Digital Media for Historians and Librarians
- Belinda Weaver - Making the Most of the Web
- Aileen Weir - The Information Professional of the Future: What skills will be needed and how will they be acquired?
- Kirsty Williamson et al - Levelling the Playing Field: The Role of Libraries in Providing Online Services for People with Disabilities
- Evelyn Woodberry - Changing 'Shape' of Copyright: The Impact on Libraries
- Tom Worthington - The Network Becomes the Library: The need for Supportability

Papers presented at the Fringe Conference

- Belle Alderman - Mentoring Relationships
- Leonie Blair - Career planning
- Bruce Cumming - Summing up the Fringe: a personal view
- Heather Fisher - Traveling the Yellow Brick Road
- Greg Fowler - Evidence based health care: diverse career opportunities for librarians
- Robert Knight - Superman left in the shade: librarians eclipse

traditional superheroes in regional and remote communities

- Ann Luzeckyj - A foot through the door: do you feel your course adequately prepared you for work?
- Carolyn McSwiney - Think Globally!
- Roxanne Missingham - Switched on: your new career!
- Michael Robinson - New Members Welcome: the library professional and the professional association
- Vicki Williamson - Innovation, flexibility and professionalism
- Helena Zobec - Stand out in the Crowd: skills development for a successful career

If you have any questions about the publication of the Proceedings, please contact Kerry Webb at kwebb@alianet.alia.org.au

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The 21st Century Information Environment

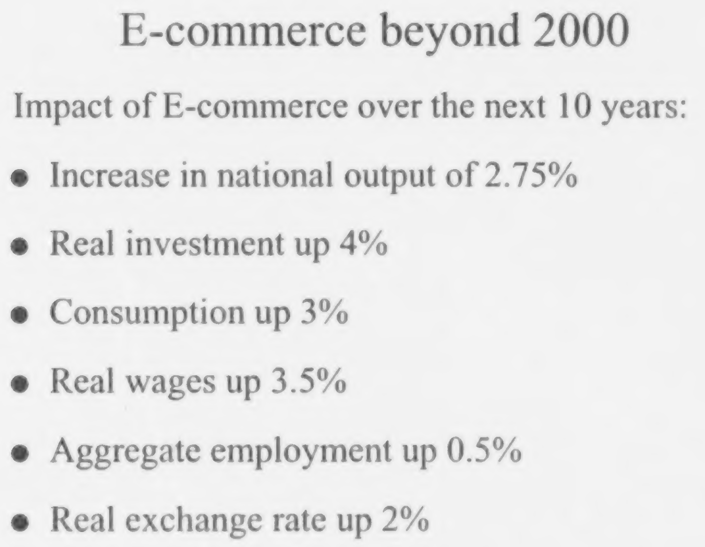
Rod Badger

Thank you for asking me to talk about issues which I believe are among the most challenging facing society today.

We are in a world where digital technologies are providing a plethora of new opportunities and choices in people's lives, but at the same time, creating a host of new complexities and uncertainties.

Australia must embrace this global phenomenon or risk missing out on the potentially vast economic and social benefits that are on offer, including the very real prospect of forever rendering obsolete the tyranny of geographic distance.

In the 21st century we cannot afford to assume the information revolution will power itself. We have to drive initiatives. We have to be pro-active. And we have to make absolutely certain that we have not only the physical infrastructure in place but also the social infrastructure.



E-commerce beyond 2000

Impact of E-commerce over the next 10 years:

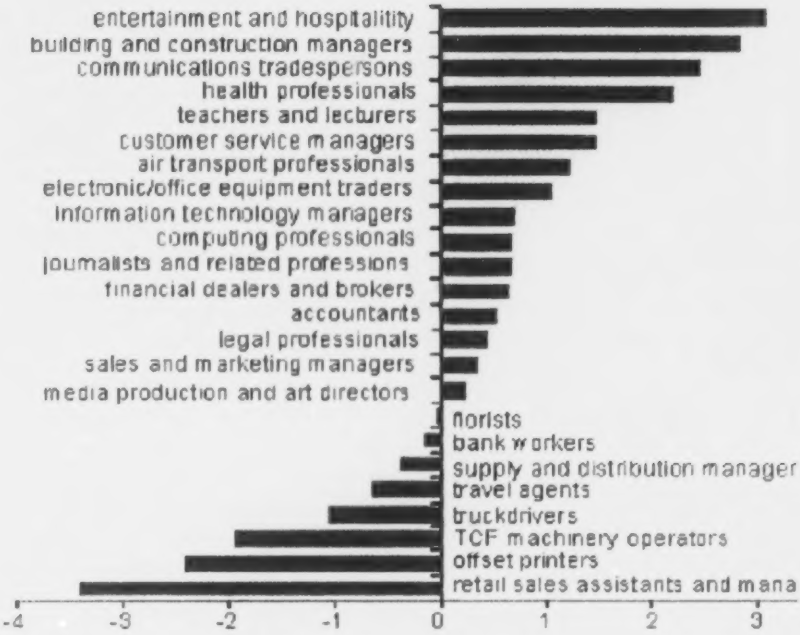
- Increase in national output of 2.75%
- Real investment up 4%
- Consumption up 3%
- Real wages up 3.5%
- Aggregate employment up 0.5%
- Real exchange rate up 2%

Figure 1

A recent E-Commerce Beyond 2000 report illustrated how e-commerce is likely to work its way through the economy. The report involved a rigorous economic analysis by the Allen Consulting Group using the MONASH model of the economy. The analysis showed that:

- E-commerce will increase Australia's gross domestic product by 2.7% by the year 2007. This means over 10 years, the impact of e-commerce will be roughly equivalent to one year's extra economic growth.
- We see a rise in GDP, wages and employment - an unusual combination driven by the productivity gains of e-commerce.

Occupational change

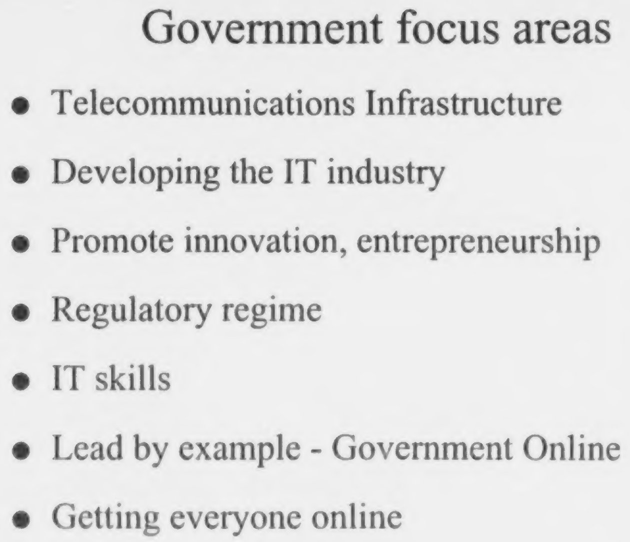


% deviation from base case

The study also looked at employment implications.

- There are going to be major shifts in occupations. Governments will have a major role in facilitating the transition through training schemes and in making sure that there are adequate skilled people in the areas of high demand through our education system and our migration policies.
- As I noted earlier, there will be a net growth in jobs.
- The occupations that grow are generally ones that are well paid, well educated and contribute to high value adding.

Governments are often derided for not being dynamic enough, for being too safe - it's in the IT sector where we have an opportunity to show a more proactive and far-reaching policy response.



Government focus areas

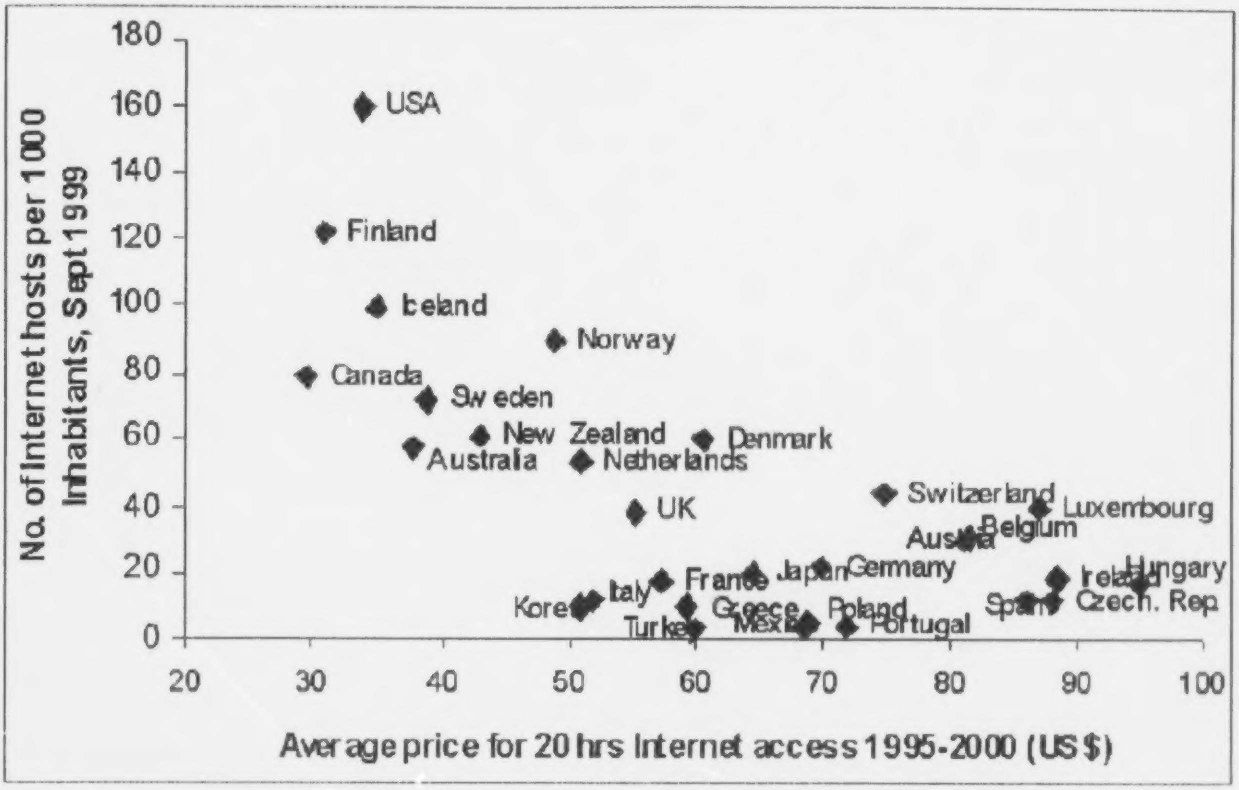
- Telecommunications Infrastructure
- Developing the IT industry
- Promote innovation, entrepreneurship
- Regulatory regime
- IT skills
- Lead by example - Government Online
- Getting everyone online

Figure 3

The key areas the Government has been focusing on in its path to becoming a robust knowledge economy include:

- ensuring we a have a sophisticated and cost competitive telecommunications infrastructure;
- developing our information technology industry;
- supporting a conducive environment for the information economy in areas as innovation, entrepreneurial culture, and tax reform;
- Establishing a regulatory regime that will provide a safe, secure and certain online environment for users and foster the widespread take-up of electronic commerce;
- Ensuring that all levels of society have the skills required to take maximum advantage of the opportunities provided by the information economy; and
- Leading by example through the provision of government information and services online wherever this is appropriate;
- encouraging businesses and the community to get online.

Internet access costs OECD, Is There a New Economy? June 2000

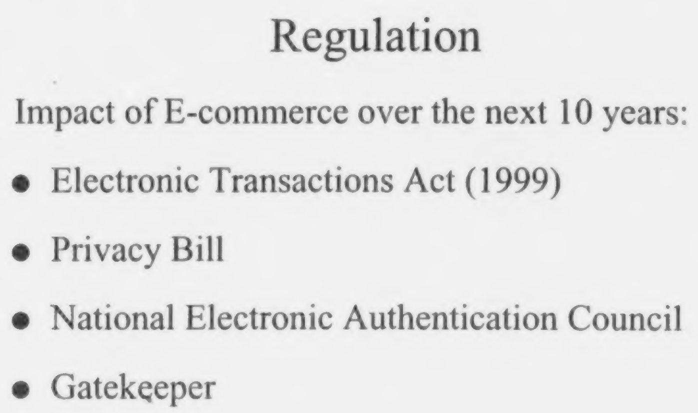


Telecommunications Infrastructure

Telecommunications is the backbone of the Internet and the information economy. Government's deregulation of the telecommunications industry has been crucial to reduce phone costs and thereby encourage online activity. Australia now ranks fifth in the world in terms of average price for 20 hours Internet access over the period 1995-2000. [OECD] Australia ranked ninth in terms of the number of Internet hosts per 1000 inhabitants. [Sept-99]

Networking the Nation is the Commonwealth's five year $250 million regional telecommunications infrastructure fund to help bridge the gaps in telecommunications services, access and costs between urban and non-urban Australia. NTN aims to assist the economic and social development of regional, rural and remote Australia by funding projects which

- Enhance telecommunications infrastructure and services in those areas;
- Increase access to, and promote use of, services available through telecommunications networks; and
- Reduce disparities in access to such services and facilities.



Regulation

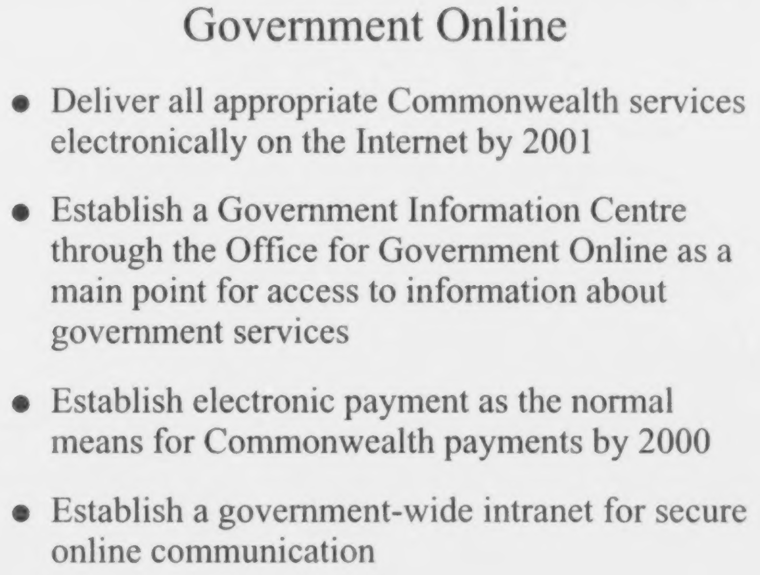
Impact of E-commerce over the next 10 years:

- Electronic Transactions Act (1999)
- Privacy Bill
- National Electronic Authentication Council
- Gatekeeper

Figure 5

Regulatory

We have established a national legislative framework through the Electronic Transactions Act, which was passed about a year ahead of the US; our Privacy Bill will support and strengthen self-regulatory privacy protection in the private sector. Through the National Electronic Authentication Council and our Gatekeeper project we are building consumer and industry confidence in e-commerce transactions.



Government Online

- Deliver all appropriate Commonwealth services electronically on the Internet by 2001
- Establish a Government Information Centre through the Office for Government Online as a main point for access to information about government services
- Establish electronic payment as the normal means for Commonwealth payments by 2000
- Establish a government-wide intranet for secure online communication

Figure 6

Government Online

The Commonwealth's Online Strategy aims to ensure that agencies meet their commitment to have all appropriate services delivered online by 2001. The strategy contains key minimum standards in sensitive areas such as privacy, security and access (including for disabled Australians and people living in regional areas).

Over 75 percent of Commonwealth agencies responded to a recent survey of Government online readiness, with more than 95 per cent of these agencies currently paying some portion of their suppliers electronically.

This illustrates that there are no substantial impediments to electronic payment, and our goal of paying all suppliers electronically by the end of this year is a realistic one.

Nearly 90 per cent of agencies reported that they expect to be able to trade electronically using open standards by the end of next year.

Australia is now a world leader in harnessing the opportunities of the digital era, addressing the issues involved in creating, distributing and accessing content in the online environment.

Government funding

- Information Technology OnLine (ITOL)
- AccessAbility
- Online Public Access Initiative (OPAI)
- Networking the Nation (NTN)
- Building Additional Rural Networks (BARN)

Figure 7

Community Access

In recent years, the Commonwealth Government has funded a wide range of programs and projects to enhance community access to the information economy. In January 1999 the Government outlined its vision for Australia (Strategic Framework for the Information Economy) and set a national framework to achieve it.

The Government's multi-faceted approach to this issue comprises: regulatory initiatives to encourage greater competition in the telecommunications market; grants programs to fund the development of telecommunications infrastructure, community access facilities and training; a range of educational skills development initiatives; and providing government services electronically in ways that enable access for all sectors of the community, including the disabled.

The Online Public Access Intitiative (OPAI) was developed to support a number of projects enhancing public access to online services - such as the Internet - in public libraries and similar institutions. It was funded as part of the Networking the Nation project.

Business

Programs such as the Information Technology Online program is accelerating the national adoption of B2B e-commerce solutions, especially by communities of SMEs and the Networking the Nation program has funded over 400 projects to date, worth $197 million, to assist regional and rural business with their takeup of e-commerce.

NOIE is working with key sectors of the economy to help facilitate uptake of e-business where it seems to be slow. For instance, we have helped the transport sector, the backbone of commerce old and new, to develop a strategy and network which will benefit both big players and small. We worked with the sector to scope out the issues, build communities of interest and identify opportunities for improvement.

The transport sector responded well, and through the ITOL grants program we were able to respond to their proposals by funding a transport portal to bring all the players together online.

Core Issues

- How to improve current business activities
- How to take advantage of new business opportunities

Figure 8

As with these other industries, the library and information sector will have to address two core issues in the new economy:

- How will it improve its current business activities; and
- How will it take advantage of new business opportunities.

Percentage of Adult Population Connected to the Internet - 2000*

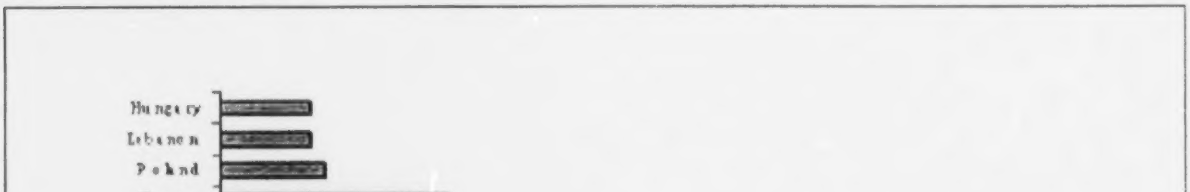
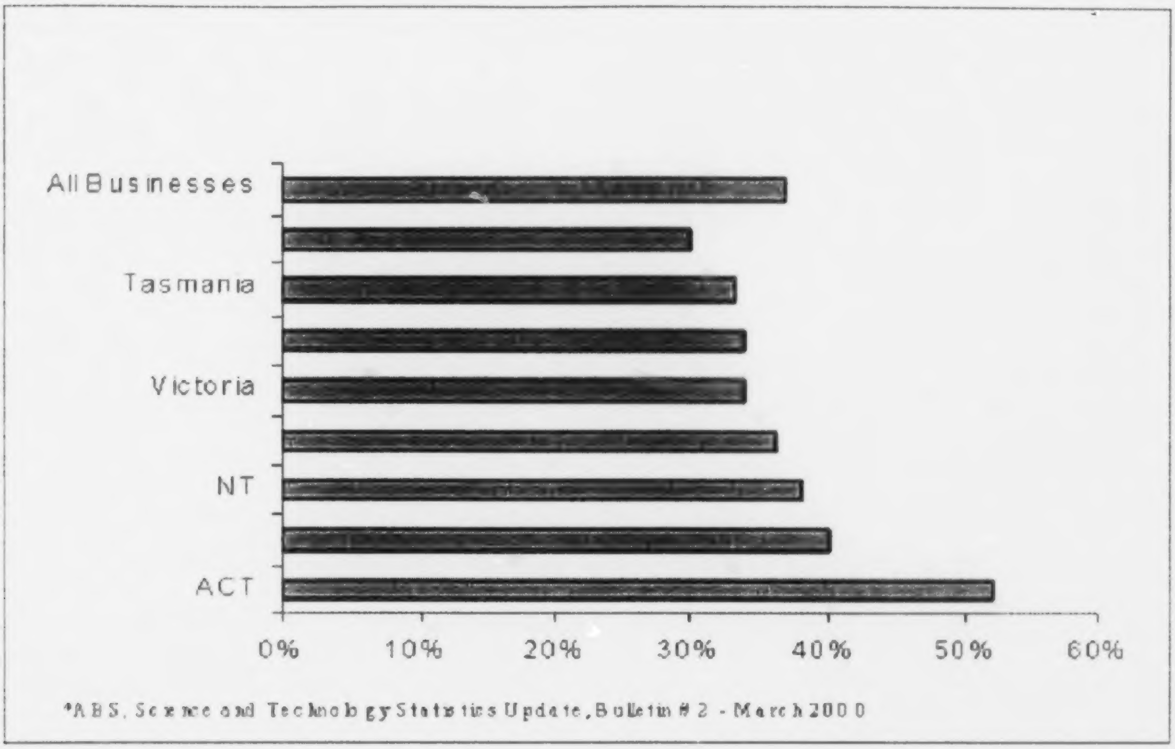


Figure 9

Businesses Connected to the Internet by State and Territory - June 1999*



*ABS, Science and Technology Statistics Update, Bulletin # 2 - March 2000

Figure 10

The developing online environment presents many opportunities for Australian products to be marketed, promoted and made accessible to a much wider audience within Australia and the rest of the world. As the information economy develops further we will see an increase in households connecting to the internet with students and parents finding it more convenient to use the internet to access information they may need in their study and business activities. Libraries will face the challenge of publishing more information electronically as the demand rises. Historically, businesses have not made use of libraries as much as they could and with an increase of information becoming available online, this will change. Libraries will need to expand their services and customer base.

Australian archives, libraries, museums, galleries have a great tradition of providing access to their collections. The digitisation of collection materials is making an extraordinary wealth of information and virtual artefacts accessible, enabling increasing numbers of people to experience, engage with, and learn from our heritage.

All sectors need sophisticated management and policy. As we are in a time of revolutionary change we need people who can see the big picture, who can see the commonalities and the differences that really matter in a situation, rather than the surface conventions. In revolutionary times, you need the vision to translate the core values and service functions that are the heart of information service into the new circumstances.

Librarians have this unique mix of expertise. No other professional group comes close to combining the knowledge of information and its organisation, the information technology to support information resources, and an understanding of people in relation to information - what their needs are, how they look for it, how to help them.

The challenge ahead

- Attracting a broader cross section of the community into the library
- Staff time allocation and resources
- Training
- Internet only or a range of PC applications

Figure 11

The challenges ahead for the library community continue to include:

- Using the provision of the internet access as a lure to attract a broader cross section of the community into the library. Anecdotal evidence suggests that book borrowing rates increase with the provision of internet access.
- Staff time allocation and resource issues. Ideally, library staff should be available to assist new internet users, but obviously such support has ongoing resourcing implications.
- Staff training - for the benefit of users but also to optimise staff's skill and career development.
- Internet only or range of PC applications? The availability of access to standard PC functions, such as word processing, spread sheets, desk top publishing and printing facilities enhances outcomes for users.

One of the areas that is often overlooked in the rush to get services online is the back-end administration. Throughout our work with Government and industry we have seen time and again that the greatest opportunities for cost reduction and efficiency are in the back-end business processes like human resources, financial support, purchasing processes, facilities administration and so on. Investment in IT and e-commerce should embrace both improvements to business process as well as developing new services.

This situation presents a challenge we all have to address. Among other things, rural, regional and remote archives, libraries, museums and galleries should be encouraged to become "online hubs", making onsite access to the Internet available to the communities within which they belong.

Libraries should ideally be one of a range of internet access points available to the local community. Other options include community sector organisations, schools and universities, commercial cafes, etc. Multiple access points within a geographic community are most likely to serve and benefit the maximum number of people. Libraries alone are not enough.

Education / Skills

- IT & T Skills Exchange
- Migration systems monitoring
- Ongoing IT & T Career awareness raising activities
- Research
- Collaboration with other Government agencies

Figure 12

Education/Skills

The information age is also transforming the education and training system itself. In-demand IT skills do not remain static and need to be constantly upgraded as technology changes. This will inevitably result in a greater emphasis on lifelong learning, filler and bridging courses, industry-based training and IT education delivered at the community level.

Education systems will have to become significantly more flexible to respond to constant changes in IT skill requirements. This will require a closer partnership between governments, education providers, the IT industry and other industries where IT skills are a major business input.

Increasingly, we expect business owners will train themselves and their employees to meet their companies expanding IT skills needs. In-house training is a cost effective alternative to hiring experienced IT staff. It can provide long term solutions and benefits to both Australian business and employees.

Moreover, it is in the interest of business and government to work together to ensure we do not create a nation of IT haves and have nots. Australians who cannot access a PC or don't know how to turn on their computer face being sidelined from a society where IT is becoming more central to every facet of life with each passing day. This is why programs such as AccessAbility, Networking the Nation, and online awareness raising programs are all helping to target groups who may otherwise be overlooked.

To this end, NOIE is continuing its work which will encourage and assist the community sector (urban and rural) to get online and to get their clients/members online.

Conclusion

I would call on all of you to look at ways of making a strategic and long-lasting investment not only in improving productivity but in helping to drive demand for content and online services. Doing this will help ensure that all Australians can be active participants in the information economy.

A nation where everyone has acceptable levels of IT competence, where everyone has the option of being connected to each other builds on our natural assets, on our natural competitive strengths and advantages. It is the sea change needed to equip this nation to take the next great leap forward. We may be clever but we need to get smarter.

Thank you

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User Perspectives of the Future of the Internet

Trevor Barr

So much of the drive in contemporary communications centres on investment in new companies of the 'new economy' and on infrastructure projects for new networks. What is often relegated to a secondary place is any systematic consideration of the end users in this burgeoning new communications environment. Yet this is an era when the user dynamics are being dramatically re-configured.

UNDERSTANDING USERS

In communications services the value chain for users is changing radically. For much of the twentieth century it was essentially possible to roll out a telephony network and find that access to a telephone service had a natural take up as it progressively became an invaluable social and business instrument. However, the present communications development paradigm has a plethora of information and communications services, of different kinds, requiring difficult judgements about their possible acceptability by users and consumers. The old paradigm of telecommunications development- ' build the networks and they will come,' or the paradigm of computing development - 'there will always be enough users to fill the increasing bandwidth' - are gone.

Now the development of so many innovative communications services requires that organisations who invest in new communications services need to undertake greater investigation of people's needs and greater understanding of the way they run their lives. Participants who wish to offer services need to *understand user perspectives* rather than technology perspectives. As US Federal Communications Commissioner, Andrew Barrett, has explained, ' When I ask telephone people, 'tell me what new services you are talking about', they go into these broad generic terms like telecommuting, telemedicine and distant learning, and I have to remind them that these are not service offerings, they are potential uses of a broadband network.'[i] Providers of technology tend to start from a position of what they do and what they can offer, instead of starting from trying to understand how consumers might want to use technology based services, old and new, in their lives. Dervin explains, 'Almost all our current research applies an observer perspective. We ask users questions which start from our worlds, not theirs: What of the things we can do would you like us to do? What of the things we now offer you do you use?... The difficulty is that the data tell us nothing about humans and what is real to them....'[ii]

So much more systematic investigation is demanded into the relationship between new communications technology and social behaviour than hitherto. Supriya Singh, Senior Research Fellow at CIRCIT, argues that 'instead of information being seen as a commodity that has to be transmitted, information has to be seen as a process of sense making where information is constructed by the user. This changes the questions that are asked. Instead of focussing on the service, the questions focus on the customers' needs.'[iii] In her pioneering research into banking Singh started from a position of looking at the way people manage money in their lives and how this related to technological choices about banking processes. So instead of starting with the construction of a banking network and then trying to get customers onto the network, the starting point was to try to understand peoples' behavioural practices related to money and how these 'mix and match' with technological choices.

Regrettably many of the service providers, actual and potential, in this new information services market place tend to see this line of argument as 'academic' or lacking commercial reality. On the contrary, however, the successful participants in this new order will be those who understand the social and cultural dimensions of the users in their new businesses.

The fundamental change may be summarized as **the shift from supply led development to a demand led consumer user and citizen participation focus**. There is likely to be a great deal of experimentation with new information and communication services, with plenty of market failures and some successes; eventually a sense of order may emerge around these new services. At the end of the day, however, the only services that will 'work' in the market place are those that are useful and affordable.

THE INTERNET USER CONTEXT

The Internet is widely regarded as the most significant change to contemporary modes of communications. The Internet's extraordinary growth and the global reach of its platforms, the passion of its adherents and its maze of unresolved issues all qualify it as a paradigm shift in communications.

In the context of the role of the end users in communications the Internet has evolved from entirely different constituencies. It is a medium that has become progressively more interactive than its predecessors. This is a medium of communication that has grown out of a range of different user support bases and their demands for different forms of interactivity. It is insightful to contrast the evolution of the Internet in user terms with historical attempts at interactivity for commercial television.

Let's go back. In the late 1970s the American commercial television networks made substantial network and marketing investments into new forms of interactivity via the television set- eg., home shopping and security systems. Remember the famous QUBE system in Columbus Ohio with its promise that ' you can talk back to your television set?' Essentially this top down marketing approach to create interactive marketing services via the television medium failed commercially. Despite the huge investments from the US commercial television networks consumers switched off in droves, and attempts to change the nature and scope of the medium for its users found no market pull.

Meanwhile the US Defence Department's Advanced Research Projects Agency (DARPA) had initiated a project that eventually came to re-define our sense of interactivity. A communication system emerged with no centre, rather a decentralised, self maintaining series of links between computer networks. In the early stages the computers connected to the Net were situated in US military bases or research centres, and only available to a defence elite who used the system for E-mail transmissions. The early Net was used only by computer experts who had to learn a complex system.

The early 1990s saw academic and public and private sector research bodies playing leading roles in the extraordinary network and software development of the Internet - a system of embedding links in text to other text- and this became the World Wide Web in 1991. This phase also saw the Internet also emerge as a significant alternative or counterculture mode of expression. Micro communities abound on the Net, covering facets of virtually every aspect of human behaviour and curiosity, with people all over the world searching for content and images about religion, politics, gambling, literature, poetry, drugs, sex and pornography. New kinds of grass roots electronic communities have emerged in ways that would never have been possible through established media institutions. These communities of common interest have been the driving force behind the rapid take up of Internet services in a 'bottoms up' process by users which contrasts sharply with the top down history of interactivity with commercial television.

We have witnessed extraordinary growth of the Internet: in 1981 fewer than 300 computers were linked to the Internet; by 1989 the number stood at 90,000; by 1993 over 1,000,0000; and by 1996 an astonishing estimated 9,400,000 host computers world wide were estimated to be linked to the Internet, 60 % of which were located in the USA, with possibly 40 million people with access around the world.[iv] By July 1997 the number of host computers with registered ip addresses had rocketed to 19,540,000.[v] A September 2000 estimate of the total number of world- wide users with direct access to the Internet is 295 million people- the US with 136.9m and Australia with 7.6m Internet users via home computer.[vi]

With this kind of growth has come the emergence of a commercial market place for Internet trading that remains in a highly fluid state. This era of e- enterprises - e banking , e-shopping, e-education and electronic commerce, presents other new forms of interactivity and creative use of the new medium. Yet the commercial viability of these enterprises remains in question. There are simply no guarantees for investors and suppliers that the emerging on-line services - such as home shopping, home banking, video on demand - indeed the generic category of electronic commerce services, have substantial market pull. And some of the transformations predicted have not yet been realised. As *The Economist* recently argued:

> 'Until recently, the Internet was seen as the making of the media business in the 21st century. It was going to slash costs: media products, unlike most retail goods can be delivered down wires, so the Internet would eliminate the need for factories and distribution networks. It was going to boost revenues, previously inaccessible markets would become reachable and data collection would make advertising more valuable. And it was going to lower barriers to entry, generating a crop of healthy new companies. But the Internet has not lived up to these hopes.'[vii]

The fundamental reasons behind this current overall failure of major commercial uptake appear to again reside in complex behavioural factors, notably perceptions of trust and issues related to privacy. The jury is out on whether the traditions of this medium of virtualism and common interest will give way fundamentally to commercial capture.

SMART INTERNET TECHNOLOGY IN THE FUTURE

In the next few years the likely exponential growth of Internet services will make substantial demands on understanding and managing the complexity that will arise from both the explosion of both the number of connected devices and the volume of information available.

It is critical, however, that these new enabling technologies meet the needs of people, are useful, flexible, readily accessible and affordable. We need a great deal more qualitative research into the nature of Internet communities. Generally speaking research about Internet communities has been a methodological extension of the system used for commercial television ratings, based on the volume of users, market shares and consumption patterns. There is an urgent need for different kinds of research about Internet communities. Questions that have not been systematically researched are about what motivates people to go onto the Net and their sense of expectation of what it might be able to provide. We need to try to find out what people want the Internet to be in the next few years.

In this context a major research innovation under way in Australia is coming from a group of people who have constructed a bid for a Cooperative Research Centre for Smart Internet Technology. The bid involves 8 Universities in four states, several government agencies, a consortium of small and medium enterprises (SMEs), and six major corporations - Adacel, CSC, Hewlett Packard, Motorola, Nortel Networks, and Telstra. The CRC for Smart Internet Technology aims to research and develop a scalable, robust Internet that is 'smart' in assisting its 'users.' The specific objectives are: to provide technologies for high-value Internet-based international products; to lower Internet technology deployment costs; to integrate technological and social/ behavioural research in efficient and effective programs; to produce knowledgeable, skilled and enterprising IT professionals; and to commercially advance Australian industry, SMEs and start up companies.

The Research Program of the CRC for Smart Internet Technology has been structured into 5 core programs each of which will address an architectural component of the future Internet: "Smart

Networks", "Intelligent Environments", "Smart Personal Assistant", "Adaptive Natural User Interface" and "User Environment". The common theme of these research programs is that the Internet as a network is likely to become more complicated to manage in the future, both from the user's point of view and the network manager's. So assuming the exponential growth of the Internet continues the likely course of the next Internet generation is an explosion in the number of connected devices, a dramatic increase in traffic and ever burgeoning amounts of information. Fundamental research is required to get beyond the kind of common media coverage that's around - like busy office workers will be able to send cooking commands to their net enabled microwave ovens to have dinner cooked by the time they get home.

The research projects will work towards the evolution of new user possibilities, technologically and functionally, for the Internet in ten years time. These might be that:

1. Users will no longer be dependent on using the key board and the mouse with their interaction but may be able to draw upon richer modes of human communication.
2. The new system will be able to record and respond to user preferences for particular information and services via the Internet.
3. There will be constructed individualised information services as useful personalised agents offered over the Net.
4. It will be possible to use the Internet to provided users with automated information briefings that ought of be helpful to them.
5. People will be able to access the Net from multiple devices with varying capability ie., a device independent Internet.
6. Users will be able to take their information and documentation with them anywhere, any time, any place and be able to access the Internet.

So users ought to get better functionality, enhanced services and access to an intelligent communications technology to help them run their lives. This seven year CRC research program , involving several hundred researchers around Australia has a considerable task before it!

In all of this we must remember - the question is not only what the technology is going to be like, but what *we* are going to be like.

Footnotes

i Quoted in Kyrish, S, 'Public Policy and the cycle of prediction,' BTCE Conference, Melbourne, 1996 p 11

ii Dervin, B and Dewdney, P, 'Neutral Questioning: A New Approach to the reference interview', *RQ*, 25 (4), 1986, p 506-

iii Supriya Singh, 'Communication and Information Technologies,' Paper, CIRCIT, 11-8-95

iv American Civil Liberties paper. See www.aclu.org/court/cdadec.html , p5.

v Robert Hobbes' Zakon, 'Hobbes' Internet timeline,' The Mitre Corporation, 31-12-98, p14

vi www.nielson-net ratings.com/ accessed on 12/9/00

vii The Economist, 19-87-00, p 59

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The User Interface: glitz versus content

Tony Barry

Introduction

Building new client software for interfaces to library systems is over. The user community will strongly resist another piece of software to view information. They want to view everything through the one interface, the browser. Attempts to modify this interface, such as the Java based Dynix client, while it may prove attractive features[BIBLIO] will be resisted by the casual user.

Libraries cannot control what equipment will be used to view their web sites. Their users will have a mix of equipment of different ages using different operating systems of different version. They will use different browser software with a variety of different versions and they may choose to turn off various features or override them. Libraries are not in control of how their information will appear on the users screen. With the stress on the remote delivery of service the lack of bandwidth to many patrons is an important consideration to avoid the "world wide wait" syndrome.

Normally a library will try and provide, as far as possible, equality of service to its various categories of patrons. This is not true of commercial sites.

Commercial versus library sites

We see many commercial sites with animated graphics which can only be viewed adequately with high end equipment. Why is this?

Commercial sites succeed by the number of people who view their site. For them to sell a product or service they need to attract people to the site and a pleasant 'viewing experience' is important. Also the people with money to spend tend to be those with the better equipment! Commercial sites are not there to reach everybody. They want to reach those people will generate revenue. This is especially true of sites they rely on advertising as their revenue source are paid on the basis of the number of visitors..

Libraries are not like that. They are close to natural monopoly for many of their services. They must succeed through content. Commercial sites succeed through design. This is not to say that content is unimportant to commercial sites and design unimportant to libraries only the stress is different.

Conflict between appearance and content

HTML is a markup language which, in its latest manifestation as XHTML[W3C], is moving to divorce structural markup from stylistic information, to separate content from display. Appearance is determined by the browser which may lack the capability to display what the designer intends. Also the user might deliberately disable some features. You cant make it look the same so why try? Yet web designer continue to spend vast effort on achieving the right appearance even using proprietary tags [SMITH] which only exist in a particular browser knowing it wont look the same anyway.

We are seeing the influence of designers who have transferred from a print environment and who believe appearance to be central. They approach content as a sculptor approaches a stone and feel that what they produce will be viewed by fellow artists when the viewers may be geologists. The print environment is one where the designer determines what is seen and there is no question that the viewer has anything but a static role to play.

But the designer does not exist in isolation. Approval processes for publications which require agreement from senior management before a publication goes out the door are still applied. But for print they are applied to a technology, print, which preserves mistakes whereas on the web errors can be modified as detected. The approval processes can be evolutionary and more relaxed.

Managers have another problem. Often they are older and have not the flexibility to cope with the new medium. They apply print habits of judgment to what they see. Their judgment might well be based on seeing a printed version of the page coupled with a demonstration on their local, and therefore fast, network. In the library world they may well be thinking of the flashier commercial sites they have seen, again on the local fast networks, and they wish to emulate them. What they should be doing is considering what the end user can , or might choose, to see. While I have no explicit evidence for this I suspect that:

- **The usability of a web page is inversely proportional to the degree if interest given to it by a senior manager.**

Osterbauer and others at AusWeb2000 had some interesting comments to make on commercial sites. [OSTERBAUER]

We need a new paradigm in design where the author determines content and the designer (who may be the author) established guidance to enable the readers to provide a satisfactory appearance for their own needs. The end user should be enabled so as to easily modify the appearance of the document rather than being forced into the design decisions of the designer.

Rules of good web design

Nielson's 1996 paper is still a good start [NIELSON1996] and he has extended this [NIELSON1999]. His original list of what to avoid is:

1. Using Frames
2. Gratuitous Use of Bleeding-Edge Technology
3. Scrolling Text, Marquees, and Constantly Running Animations
4. Complex URLs
5. Orphan Pages
6. Long Scrolling Pages
7. Lack of Navigation Support
8. Non-Standard Link Colors
9. Outdated Information
10. Overly Long Download Times

In the context of libraries I would add to this list of what to avoid:

1. Graphics especially big graphics
2. Fixed pixel width tables
3. Tables embedded in tables for layout purposes
4. Reliance on colour to provide information
5. Scripting (or provide alternatives)
6. Plugins which are not supplied with browsers
7. Propriety tags

I would promote the use of:

1. Text equivalents to all images and multimedia via ALT tags
2. Headers for tables
3. Descriptions for tables
4. Summaries for graphs and charts
5. Standard HTML specifying the DTD used

A number of the items in this list are to ensure that the visually impaired can make use of the service and this should be a strong consideration of design for libraries. [W3C99]

Survey and methodology

The survey looked at the home page of each universities web site. Where the site used frames the page included in the main content page. The sites and URLs are in Table 1:

Table 1

Library sites	
Australian Defence Force Academy	http://www.lib.adfa.edu.au:85/
Australian Catholic University	http://jude.aquinas.acu.edu.au/aquinas/callib1.htm
Bond University	http://www.bond.edu.au/library/index.htm
Central Queensland University	http://www.library.cqu.edu.au/
Charles Sturt University	http://www.csu.edu.au/division/library/libhp.htm
Curtin University of Technology	http://www.curtin.edu.au/curtin/library/
Deakin University Library	http://www.deakin.edu.au/library
Edith Cowan University	http://www.cowan.edu.au/library/
Flinders University	http://www.lib.flinders.edu.au/
Griffith University	http://www.gu.edu.au/home/option5.html
James Cook University	http://www.jcu.edu.au/gen/Library/homepage.html
La Trobe University	http://www.lib.latrobe.edu.au/library.html
Macquarie University	http://www.lib.mq.edu.au/
Monash University	http://www.lib.monash.edu.au/
Murdoch University	http://wwwlib.murdoch.edu.au/
Northern Territory University	http://www.ntu.edu.au/library/
Queensland University of Technology	http://wwwlib.qut.edu.au/

Royal Melbourne Institute of Technology	http://www.lib.rmit.edu.au/
Southern Cross University	http://www.scu.edu.au/library/
Swinburne University of Technology	http://www.swin.edu.au/lib/welcome.html
University of Adelaide	http://library.adelaide.edu.au/
University of Canberra	http://www.canberra.edu.au/library/index.html
University of Melbourne	http://www.lib.unimelb.edu.au/
University of New England	http://www.une.edu.au/~library/library.htm
University of New South Wales	http://www.library.unsw.edu.au
University of Newcastle	http://www.library.newcastle.edu.au/
University of Queensland	http://www.library.uq.edu.au/index.html
University of South Australia	http://www.unisa.edu.au/library/libhome.htm
University of Southern Queensland	http://www.usq.edu.au/library/
University of Sydney	http://www.library.usyd.edu.au/
University of Tasmania	http://www.utas.edu.au/docs/library/index.html
University of Technology, Sydney	http://www.uts.edu.au/div/library/
University of the Sunshine Coast	http://www.usc.edu.au/library/library1.html
University of Western Australia	http://www.library.uwa.edu.au/
University of Wollongong	http://www-library.uow.edu.au/
Victoria University	http://www.vu.edu.au/library/

Reports

Reports were then run on these pages from:

The W3C Validation service [W3CV]

This service checks the html for validity and gives a detailed report on errors found.

The Bobby disability service [CAST}

This service checks to see if it is useable by the visually disabled.

The MacOS version of Tidy program [TIDY]

This program checks the html, corrects and reports on errors and improves efficiency style specifications. It provided a separate error report.

The reports were then run into fields of a FileMaker Pro data base and also the page source from the browser. The database can be obtained from the author should anybody wish to do further analysis.

Data extracted

The following data was extracted and added in separate fields of the database

- The size in bytes of each report and the source
- The number of errors encountered from the Tidy report and from W3C
- The download time for the whole page (this includes the graphics) at 28k baud in kbs.
- The total size of the page and associated graphics

From this a number of additional measure were calculated which are discussed in the analysis

The lack of accurate, or any DTD statements, created difficulties. In some cases fewer errors might have been reported had the DTD been accurately specified.. It would appear that some sites which started at a lower level of HTML, when developing the site, introduced HTML tags from later versions. These would be reported as formal errors.

Results and analysis

The numeric results are presented in Table 2.

Table 2

Library	Source size	W3C size	Bobby size	Tidy size	Download time	Tidy errors no.	Total size	W3C errors	% graphics	Errors/K
Australian Defence Force Academy	25140	14383	13624	24447	53.4	76	80.65	67	69	2.91
Australian Catholic University	1881	4449	8241	2009	13.82	19	44.34	20	96	10.62
Australian National University	24255	1331	13122	19623	29.34	16	62.41	4	62	0.42
Bond University	9167	3682	10865	7821	27.12	20	72.43	16	87	2.01
Central Queensland University	6260	40000	56.32	7118	25.64	24	56.32	220	89	19.96
Charles Sturt University	4296	1519	11469	4489	11.41	2	15.87	4	73	0.72
Curtin University of Technology	7647	26919	11321	8995	15.51	44	41.44	165	82	13.99

Deakin University Library	9052	8538	14849	10580	16.38	31	24.78	39	64	3.96
Edith Cowan University	31940	62301	21698	25061	40.34	95	93.02	312	66	6.52
Flinders University	6260	2604	11801	8888	8.14	15	14.84	10	58	2.04
Griffith University	1093	786	7397	1093	0.81	1	1.12	1	4	0.94
James Cook University	17577	4368	11757	15970	16.07	19	41.67	20	58	1.14
La Trobe University	10975	1342	11074	10080	6.06	34	14.6	4	26	1.77
Macquarie University	10005	1872	11832	10381	36.62	6	54.42	7	82	0.67
Monash University	6702	10926	9508	6510	5.48	53	14.32	65	54	9.01
Murdoch University	4632	3496	10075	4931	10.91	29	23.08	19	80	5.31
Northern Territory University	15973	11025	18066	13348	19.21	50	36.74	57	57	3.43
Queensland University of Technology	20505	3271	15396	20566	32.24	16	71.08	17	71	0.82
Royal Melbourne Institute of Technology	5325	1268	9580	5321	51.26	3	150.32	3	96	0.58
Southern Cross University	17380	10278	NA	NA	13.58	72	108.3	55	84	3.74
Swinburne University of Technology	22368	5589	12683	20661	17.18	48	33.06	27	33	1.72
University of Adelaide	8956	1672	11096	7800	23.76	5	53.12	6	83	0.63
University of Canberra	10402	2536	11762	10364	18.07	19	36.26	11	72	1.48
University of Melbourne	13287	1538	11287	12627	24.31	8	58.27	0	77	0.31

University of New England	4233	1388	9450	4272	25.1	2	68.78	??	94	#VALUE!
University of New South Wales	10122	2544	10988	8739	20.08	19	39.9	12	75	1.57
University of Newcastle	6527	33794	10623	5846	22.78	16	56.81	223	89	18.75
University of Queensland	21574	4382	17060		23.32	27	40.77	22	48	1.16
University of South Australia	8846	1010	11416	8729	21.93	6	51.94	2	83	0.46
University of Southern Queensland	11379	4157	12212	10358	19.1	19	50.76	17	78	1.62
University of Sydney	6053	1134	8930	6424	15.45	2	50.22	3	88	0.42
University of Tasmania	5051	32934	7110	4823	2.09	2	2.14	221	-133	22.6
University of Technology, Sydney	6952	3092	10420	6869	12.71	19	34.94	12	80	2.28
University of the Sunshine Coast	11901	16384	11675	9870	20.02	8	54.06	85	78	4
University of Western Australia	11153	10015	10877	10979	26.44	36	62.77	52	82	4.04
University of Wollongong	5063	1019	9741	4506	9.56	2	30.82	2	84	0.4
Victoria University	5254	4599	9832	5063	14.99	25	48.56	21	89	4.48

Use of graphics

By and large graphics in a home page are for decorative or design purposes. Even in the case where they are used for navigation text alternatives would be just as functional. Generally a large proportion of the information to be downloaded is in graphical form averaging 71% of the content. Griffith University with 0), University of Tasmania and La Trobe managed to keep below 25%. University of New England, Australian Catholic University and Royal Melbourne Institute of Technology managed to go over 90%.

Download times

The download time on a 28k link averaged at 20.3 seconds with a standard deviation of 10.7. Griffith University, University of Tasmania, Monash University, La Trobe University, Flinders University and University of Wollongong managed to keep under 10 seconds. In the spirit of World Wide Wait Queensland University of Technology, Macquarie University, Edith Cowan University, Royal Melbourne Institute of Technology and Australian Defence Force Academy managed to get over 30.

Quality of HTML

Thirty one out of the 37 libraries were reported by Tidy as appearing to use HTML proprietary tags rather than conforming to the HTML standard. This is clearly unfortunate.

Only 13 actually used an SGML DOCTYPE header to show which HTML version they were using although some of these specifications were invalid.

An error measure, the average number of errors from Bobby and Tidy per kilobyte of source code, gave an average error rate of 4.3 errors/K with a standard deviation of 6.8, a wide variability.

University of Melbourne, University of Wollongong, University of Sydney, Australian National University, University of South Australia, Royal Melbourne Institute of Technology, University of Adelaide, Macquarie University, Charles Sturt University, Queensland University of Technology and Griffith University managed less than one error/K;

Australian Catholic University, Curtin University of Technology, University of Newcastle, Central Queensland University and University of Tasmania were over 10.

Frames

Only two sites used frames. One, ANU, solely for a graphical effect which could only be discerned by a careful eye.

Scripting

Scripting is often a source of problems with old browsers and with variant versions of scripting languages or proprietary extensions such as those by Microsoft. Scripting should be used with care. Eighteen sites used scripting. W3C reported errors in 16 of these sites in relation to the scripting.

Meta tagging

One would hope that libraries would pay attention the meta tagging and 31 did but sadly only one used the Dublin Core standard.

Disability testing

None of the libraries achieved clear "Bobby approved status" . But 18 libraries only required manual checks of potential problems which the bobby program could not assess automatically. The other 19 libraries clearly failed the test.

Correlation?

There seems to be little correlation between the variables examined but more detailed work is needed. A spreadsheet was used to normalise the data for each variable. The normalisation expressed the data as the number of standard deviations from the mean value for the data set to a value of zero. Plotting normalised error rates against the normalised graphics percentage gave the result in figure 1.

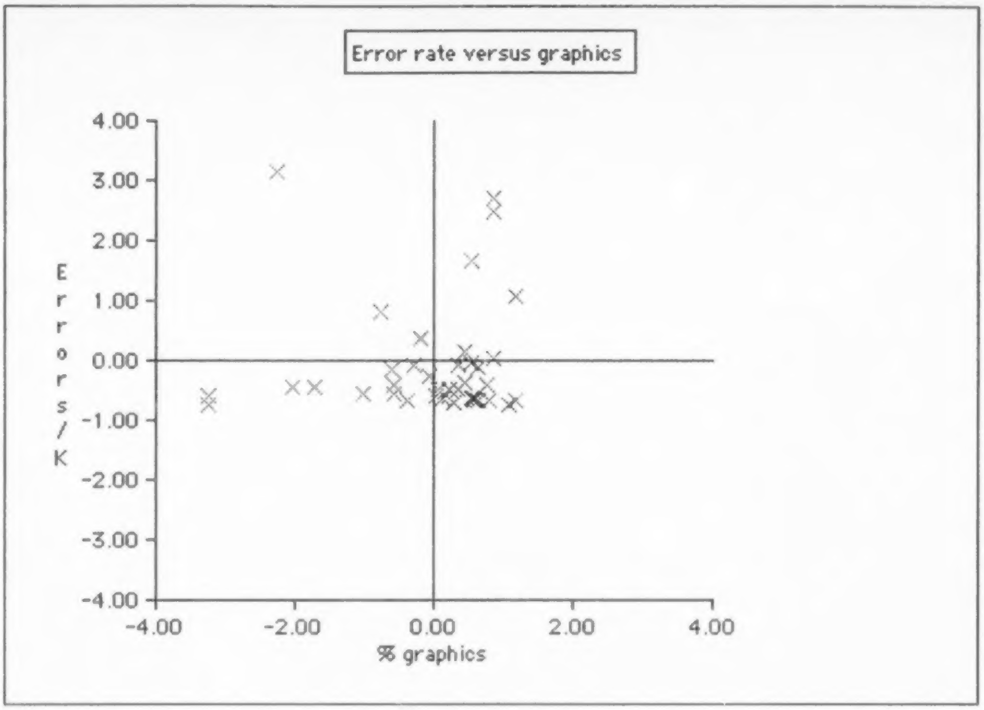

Figure 1

A figure of merit

Taking average of the normalised scores for the error rate, graphics percentage and download times we can use this as a somewhat arbitrary figure of merit

The top 10 institutions on this basis are:

Griffith University, La Trobe University, Swinburne University of Technology, Flinders University, James Cook University, University of Queensland, Charles Sturt University, Monash University, University of Wollongong and Northern Territory University.

The bottom 10 on the other hand are:

Bond University, University of Western Australia, Macquarie University, Australian Catholic University, Curtin University of Technology, Edith Cowan University, Australian Defence Force Academy, Royal Melbourne Institute of Technology, University of Newcastle and Central Queensland University

Conclusion

Australian university library web sites, based on their top page, are disappointing and they all fail to varying degrees. While individually they do not have all these failings the following statements would apply to many of them:

- They place an over reliance on graphics (Griffith being a notable exception)
- Many of the download times are too long to be comfortably used over a phone line.
- Their HTML used does not conform to HTML standards and contains a significant number of errors
- They fail the standard usability tests for use by the visually disabled

Sadly most of these errors could easily be avoided

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Public Libraries in a Wired World

Chris Batt

INTRODUCTION

Public Libraries in a Wired World - some months ago it seemed a good title, when I was put on the spot and asked to choose. Now the time has come to decide on the topic I want to explore, I begin to wonder whether the title does not promise more than I or anyone could deliver. Most obviously, the world is not wired - or at least large chunks are not wired and able to take advantage of the networked opportunities that I must have thought were implicit in the phrase! Perhaps more significant in terms of what I do have to offer, it would be quite inappropriate to suggest that my knowledge and experience could or should have relevance to the world beyond my area of competence.

On that basis a better choice of title might be, '*the potential for the future development of the public library service in those parts of the United Kingdom where there is easy access to networked technology and where the service managers are committed to the wider use of information and communications technologies for the betterment of the individuals and communities within their geographic region*'. Catchy, don't you think? However such a clear statement of the boundaries of my knowledge is bound to reduce further the attractiveness of sitting through an hour of the real thing!

What I do want to do, based on my experience of ICT and social change, observed particularly in the UK, but also in other European countries, is three things. First, report on a major UK government initiative to use the public library service as a key component in the Government's agenda for social change. Second, to examine what might be the future implications for public libraries and the workers in those libraries if present trends and developments continue. And, finally to do a little crystal ball gazing about the wider implications of ICT and social change - how profound they might be - will ICT produce revelation or revolution - and what that might mean for public libraries.

BACKGROUND

For many years public libraries in the United Kingdom were a Cinderella service; used and loved by the majority of the population, but largely ignored by decision makers. Yet the public library service demonstrated long before environmental issues were discovered, that community re-cycling is an ideal way of exploiting the value of books. The public library funded through taxation, allowing everybody equal access to the world of culture, knowledge, learning and ideas.

In May 1997 a new Government was elected in the United Kingdom and this improved the status and visibility of the public library service. This new Government was elected on a manifesto of three key policy strands - Education, Education, Education. It also stated very clearly that it wished to respond to the challenge of the Information Society and use where possible Information and Communication Technologies to exploit the benefits of education for everyone.

To quote Prime Minister Blair: *'Information is the key to the modern age. The new age of information offers possibilities for the future limited only by the boundaries of our imaginations. The potential of the new electronic networks is breathtaking - the prospect of change as widespread and fundamental as the agricultural and industrial revolutions of earlier eras.'*

However, revolutions do not happen without direct action and if we wish to defend the public good, by which I mean guaranteeing maximum benefit to the whole population rather than just an informed elite, direct action must include nationally managed policies. For example, reliance solely on market forces to drive a revolution is likely to exclude those lacking the purchasing power to buy in or those lacking the knowledge of how to exploit the new services and resources. Public intervention is therefore vital. I hope to demonstrate that a prerequisite of a ubiquitous Information Society is a population that is trained to use the new information and communication technologies and with the education to use information as the fuel to better, more fulfilled lives.

It would be wrong to suggest that the renaissance of UK public libraries was a sudden event with a change of government. The Library and Information Commission (the body mandated to oversee the strategic development of libraries and information across the country) had been working on a plan to develop ICT learning centres in public libraries for almost two years before the May 97 election. Linked with a growing recognition amongst ministers that public libraries were a vital, successful and cheap public good, the public library service looked likely to be one of the few local services to be excused the move to privatisation.

At this point it may be worth stating some statistics on the use of public libraries in the UK:

- Visiting a public library is the fifth most popular non-work activity
- UK public libraries are used regularly by around 65% of the population
- Visiting the library is five times more popular than watching a professional football match (quite understandably!)

It is the recognition of this wide use by all sectors of the population aligned with high levels of satisfaction expressed in a number of consumer studies that helped put in politicians' minds the reality that public libraries could be seen very much as being at the heart of their communities, cherished by users and non-users alike. Some libraries had already begun to explore the value of ICT and Internet access and reported citizens 'fighting to learn'.

With the arrival of a government committed to social equity and learning for life, 4300 public library services points, high community regard and a ready-made plan for their development presented a fast track to action. As we know well, liberal access to information builds a stronger democracy with the library as the engine of community development - supporting learning for life and social integration.

While I will naturally focus on the project for which I am the Government's chief adviser, I would emphasise that there are number of programmes working in parallel to provide maximum opportunity for the promotion of different aspects of information and communication technologies diffusion. For example:

- National Grid for Learning connecting all schools to the information superhighway
- University for Industry providing learning resources for re-skilling the workforce available across the Internet
- National Electronic Library for Health offering direct access to health information to all citizens, again across the Internet

My particular responsibility is for a project called the People's Network. There are now a number of elements to this project, but at its heart is a strong commitment that every citizen should have equal access to the new opportunities that information and communication technologies present. Access is the crucial word. As I have already said, it would be quite wrong to assume that a buoyant information and communication technologies market alone will guarantee services accessible to everyone. The reality is that through lack of education, opportunity or money the most vulnerable people - those doubtless with the most to gain - will fail to get the access to develop new skills. Effective use of technology therefore contains two separate, but linked processes:

- Ensuring that everyone can get access to and has the skills to use the technology that we take for granted
- The services (the knowledge) available in Cyberspace are of relevance to and designed for a

wide constituency of people.

THE PEOPLE'S NETWORK

I have referred already to the programme of development led by the Library and Information Commission that helped to position public libraries for the new agenda and it is inappropriate to spend too iong repeating that programme in detail. For those interested to examine the various stages and activities, the relevant reports (New Library: The People's Network and Building the New Library Network) are both available at http://www.lic.gov.uk > and more current information on the implementation programme can be found at http://www.peoplesnetwork.gov.uk.

It is nevertheless important to explain the framework now in place to fund, manage and implement what has become a major plank of the Government's accessibility and learning strategies.

What is my task? I have a mandate from the Government to ensure every public library in the UK is connected to the Information Superhighway by the end of 2002; to create library-based learning centres allowing public access to information and communication technologies services including a free route into Cyberspace. We expect to be installing around 30,000 terminals in the 4300 static libraries. To achieve this 'great leap forward" the Government has allocated 170 million UK pounds and defined some key priority areas for the provision of information, learning for life and community development:

- Education/learning for life - information about learning opportunities and online learning available in all libraries
- Citizens information - the voice of the people; information to support reasoned decision making
- Business and the economy - the integration of diverse information sources
- Community history and community identity - virtual resource centres; community publications

The fact that this is the very first time in the 150-year history of the UK public library service that national funding has been directed to the development of specific services is a measure of the priority that the Government places on this programme. In addition the Bill and Melinda Gates Foundation has made a gift of $4 million to support the provision of these ICT learning centres in libraries serving the most deprived areas of the UK.

We may summarise the objectives of the People's Network project as:

- providing universal access to information and communication technologies equipment
- access to training opportunities
- access to new, high-quality electronic content

and the expected outcomes as:

- the chance for all to benefit, regardless of educational attainment, financial resources, etc
- new opportunities for those people to learn and develop
- leading to better informed, more economically effective communities and of course, to deliver all of those outcomes as effectively as possible.

To cut to the chase, the first key question is how do we do it? Well, I was appointed in August 1999 to lead the project as Chief Network Adviser at the Library and Information Commission and given funds to appoint a team of three other staff. We would be required to advise the Government and our professional peers, acting as a two-way conduit for information, the emphasis was to be on quality rather than quantity. Thankfully, nobody has suggested that we should be responsible directly for the installation of 30 000 terminals and associated boxes and wires! All but the smallest municipalities in the UK have existing systems and procedures for purchasing and managing hardware and systems - our job would be to ensure that defined outputs and performance standards could be developed and achieved in line with Government policy.

The 170 million pound comes from our National Lottery and therefore sits with one of the management boards set up to dispense the money - the New Opportunities Fund (NOF). Alongside advising the Department of Culture, Media and Sport and the managers of public library services, members of my team spend a considerable time supporting the work of NOF. As we shall see, the Team has developed a range of funding strategies and processes.

The allocation of the funding is in three parts and is required to be spent by the end of 2002. The parts are:

- One hundred million pounds for the installation of network hardware, PCs, and the like within library services. We have developed a model of funding levels for each of the 209 library authorities in the UK, based on the number of public PCs they can get into each of their libraries. Details of this model along with other information about the People's Network project can be found at our website (http://www.peoplesnetwork.gov.uk)
- Twenty million pounds to train all 40000 public library workers to the competency level specified in the European Computer Driving Licence (http://www.bcs.org.uk). This will provide a basic skills set for everyone working within the public library system. It is expected that many staff will be trained to a higher standard becoming Net Navigators and Gatekeepers and that this 'one-off' training programme will be the catalyst to encourage all library services to make ICT training a regular part of their staff development programmes.
- Fifty million pounds to create new digital content. This is the most complex and potentially the most significant part of the People's Network development programme. While the UK Higher Education sector has been investing in the creation of digital content for some years, never before has such an open bidding programme been implemented where anyone with a good idea (library service, museum, archive, voluntary organisation, whatever) has had the chance to throw their cap into the ring. When the call for bids closed at the beginning of this year we had received 343 separate bids totalling 130 million pounds! They ranged from the history of shipbuilding to the understanding of science and the history of biscuits! I must stress that the only requirement for any bid's consideration was that it should in some way support learning in its widest interpretation so that community information and other resources designed to help people to lead better, more fulfilled lives were all acceptable.

It is not usual for governments to begin such programmes with only a general idea of what might come out of the other end. The only pre-requisite alongside learning content and, of course, probity, was that the content should be made available free of charge at point of use. This was an important decision since it underlined the public-good intent and (by the way) makes it much harder for libraries to charge for other services since it will require some tricky software or separate terminals to keep the charged from the free. One might argue that this was a brave and noble decision by the Government. I suspect, in reality, that once committed to the package, the implications of the content strand went unnoticed.

We quickly realised when 343 bids came back, (ranging from £50,000 to £10m) the original plan of inviting bids and then handing out the money would not be appropriate since there were many bids if not identical, certainly falling within what one might call areas of common interest. Thankfully a long lead time had been built into the plans prepared for this programme and we were able to get agreement from the New Opportunities Fund that we should try to cluster bids into consortia. This would have the twin benefits of first bringing like topics together - shipbuilding, poetry, science, fine arts, etc - to create co-ordinated frameworks that should encourage sustainability and second, wherever possible a lead organisation with experience of digitisation and project management would be found to support the many others joining the game for the first time.

As I write this (September 2000) the Team has just finished an intensive programme of training workshops around the country to bring together consortia members and brief them on what we expect them to do. We have created a set of technical standards for interoperation and quality of accessibility, both vital elements of successful delivery and these are set to become the de facto basis for content creation for the foreseeable future. Fuller details of the NOF Digitisation programme and all the technical standards are available on the People's Network website (http://www.peoplesnetwork.gov.uk).

The importance of this part of our project, beyond offering significant investment and development opportunities to public libraries, is the creation of a body of learning-related content and the exploration of the processes necessary to build from the ground up. In the training workshops there was considerable enthusiasm and motivation by the participants, despite the fact that for many of them it is the beginning of a great adventure, which, of course, it is for all of us. As we will see below, content creation will continue to be a major task for many projects and already the Government is planning a second programme for electronic content, this time focussed more directly at the cultural sector.

I have already made clear that our role as a team is to offer expert advice to anyone prepared to listen (government, funding bodies, our professional peers) and to do that we must be plugged in to the hopes, aspirations and concerns of the public library sector, and to the wider landscape of networking that is developing. If there is one thing of which we can be certain in the jungle of electronic networking we have chosen to explore - we are not alone!

THE PEOPLE'S NETWORK PROGRAMME IN A WIDER CONTEXT

It is just a year since I moved from being Director of Leisure Services in a local authority with its fixed points of procedure and hierarchy (however frustrating at times) to lead the People's Network project. Yet in just 12 months the landscape of developments has transformed itself repeatedly as new priorities and projects emerge and new relationships are called for. It would take an extended period to visit everything significant that has happened in the past year, but some important landmarks can be highlighted.

There are three matters that are relevant to a broader consideration of the future of public libraries since they all relate to the positioning of the wired public library within a landscape where partnership and sharing must become the norm.

1. **Other public sector projects**. A year ago there were possibly about a dozen publicly funded networking projects - National Grid for Learning, National Electronic Library for Health, University for Industry, IT for All - are obvious examples signposted from the People's Network website. There was awareness of each other, but no great urgency to work closely together either to ensure effective standards for inter-operation or simply to avoid unnecessary duplication of effort. A year later there are many more projects, some major in size, such as an online community legal service. Some are the offspring of earlier projects. A good example of such legacy developments is a series of trials by the Department of Education and Employment to wire up whole communities to see whether significant change in community well-being can be demonstrated through comprehensive access to ICT and networked resources. My team now spends a great deal of its time attending board meetings for these other projects and liaising with managers from a wide range of backgrounds to gather information and to avoid turf wars. Post offices are being promoted as ICT outlets in communities so we talk to their managers; those running tertiary education (universities and colleges) wish to increase community access to their online learning resources. We have become experts in our knowledge of what is going in within Government, we are after all good librarians, and now people come to us to find out what is going on! Oh, I nearly forgot, everyone has suddenly discovered there will be a need for lots of electronic content. I have read more reports than I care to recall that describe a need for information access that sounds very like what you and I would call a library - community information, access to magazines and newspapers - need I say more?
2. **Extending the People's Network to include museums and archives**. In April of this year my remit grew from just management of the People's Network within libraries to encompass museums and archives. This extension arrived with the creation of Resource: the Council for Museums, Archives and Libraries. We are now a strategic and cross-cutting body. It is our mandate to join things up - or at least to try to! The team (now 30% bigger) is sustaining the implementation of library infrastructure and training and the digitisation

programme, but at the same time is looking at how museums and archives can move towards the digital age and what will be the implications for their traditions of service. Precisely the same questions that we face with libraries. At a simple level we can cost out how much it would cost to install hardware and network in all museums and archives and moreover define a series of roles that those institutions might fulfil if they were all to be so connected. Some museums already are doing great things, just as libraries have been doing. Some have yet to get to first base. The most significant strands of this wider remit turns out to be not the plumbing or even the content creation which we are already doing in a cross-sectoral way through the NOF digitisation programme. Rather they are the fascinating challenges for libraries, museums and archives to define in creative and sustainable ways the balance between the real and the virtual and the implications of this for future service delivery. More of that later.

3. **The government portal movement**. In one sense any moves by Government to begin to take a holistic view of the range of information services it is now offering on the Web is a natural progression reflecting the web-wide recognition that producing more effective ways into resources is essential. The portal, integrating a range of resources and allowing at least some personalisation, offers the promise of less random searching. Harvesting from the many different websites information that allow 'life episode' packages to be created helps those citizens most in need of the services.

This is nothing particularly profound or new. The fact that the UK Government has just launched such a portal (UKOnline - http://www.ukonline.gov.uk) re-inforces a trend that can be seen in many places. However, for my team and for public libraries, this move to integrate has some important messages. First of all, where possible UKOnline will go beyond the joining up of central government resources and connect in a seamless way to resources within the local government sector. If you are starting a new business and find the business entry point portal then you will want that to include both national and local resources. Ditto for many other life events - having a baby, what to do when somebody dies, and so on. Much of this information is, of course, managed directly or brokered by public library services. Already vital information agents within their communities, the public library is likely to find itself more and more becoming at once the local switching point for all community-related information and a hub within a national network of information providers.

For my team leading the strategic development of ICT within public libraries there are several other important messages. First of all, our Department of Culture, Media and Sport is committed to developing a cultural portal (Cultural Online) that will form one strand of the overall UKOnline portal. We now find ourselves becoming involved in the planning of a project that will build on the work we have already done developing the NOF Digitisation programme, but this time on a broader stage with many more actors involved.

This can give no more than a flavour of what is a complex and ever-changing landscape. What it hopefully shares is a sense of challenge and opportunity for our public library services. The chance to find ways of translating what we have done so well for decades into an exciting and much larger arena.

THE FUTURE

So, how much of what we are up to in the UK can be generalised? How far are public sector efforts to develop an Information Society-aware and informed population part of a global trend or simply a bandwagon leading up a cul de sac? In the first instance, the challenge for all of us is to try and get some grasp of where the current whirlwind of change and opportunity is and leading us. For example, will the Internet be seen in time as merely a fad for the developed nations; in the end no more or less important to the future than the hoola hoop or flared trousers? Perhaps the technologies we are now using will in just a few years turn out to be the Betamax end of the networking market and we will have to start all over again when the 'real thing' arrives?

On the other hand, if we are actually on the cusp of significant change in the ways that people interact and use information (with implications for major social change) then we are going to need a clear view of what that might mean for our public libraries. You might well ask in a time of change why we should be any more concerned or able to predict the future than any other institutions.

There is, of course, no shortage of gurus painting rosy or dystopian pictures about the impact of mass market ICT on society - how networking will turn us all into empowered, active citizens or into couch potatoes. Clearly there is a limit to the extent that the future can be planned or predicted, especially when the nature and speed of change within ICT is itself so rapid.

However, if ICT continues to be a significant force for social change and if public libraries are also to be of continuing relevance, then somehow we must find a way of placing our institutions and their future social worth within an easily communicated forecast or vision. There are already examples where other organisations are converging on domains previously the unique territory of libraries (post offices and information providers in the private sector are obvious examples). If we lack a firm grip on future opportunities, our services will become marginalised. Put bluntly, if we cannot speak with confidence and passion about the future of our services, it is very unlikely that anyone else will do it for us.

How do we turn such words into practical action? To my mind there are two messages for every library service manager to act upon now:

1. **Be an explorer with a mission**. I have made reference already to the uncharted and changing landscape of networking. Those who watch that landscape beyond the physical and service boundaries of their library will be the ones who could deliver the most value to their communities. Seeing what others are doing or planning, forming partnerships where necessary, turning threats into opportunities are what will give strength to the skills and traditions that we hold high. Defining the worth of technology and its applications will also be an essential feature of the reconnaissance process. The synthesis of these 'observatory' activities must produce re-definitions of the relationships between space and place - the future will not be a digital version of the past. If we are facing the sort of changes brought about by the invention of movable type some 550 years ago and with impact measured in years rather than in centuries, then we are all going to be faced with some radical changes, or at least the need to think about them. In such times the future belongs to the bold (rather to the well-informed bold!). An example. There has been discussion in the UK about the future of education in a wired society. How will it be possible to give learning for life opportunities to everyone removing the barriers that the formal education system creates for the disadvantaged or those simply with not enough time to learn at the whim of others' timetables. If the move to networked-based learning packages takes off as looks likely, and if network access becomes ubiquitous - in the home, in the school, in the office and in public libraries and other community locations, then one can begin to define a model for learning that reflects the realities of the majority of people's lives. We plan for them to get access through our portals to information packaged into useful life-episode chunks. That, we believe is how the most people will gain the maximum value. Why not so for education? Not solely a local, pick and mix product, but that as a key element. Learning coming out of the community nerve endings that are the network. Barefoot tutors available in libraries to facilitate and mentor. Not maybe the complete death of the university, but perhaps a major refocusing onto outputs rather than process. The chance to learn something every day must be a basic right of every citizen.

   Quite how far and how fast such institutional change can and will take place remains to be seen. Certainly there are serious people thinking serious thoughts about such things - see for example the UK Foresight thinktank (http://www.foresight.gov.uk) that has recently produced challenging reports on the future of universities and the impact of e-commerce on everyday life.

   It is such challenging questions that will produce new paradigms and definitions of what is possible. I have currently been facilitating discussion amongst staff of Resource, who come from museum, archive and library backgrounds, about the value of real objects versus virtual objects (be they Greek pot, book or archival record). For those from a curatorial background especially, strong emotions surface about the worth of the real. In our discussions we have had to work through those traditional 'positions' to a point where people recognise it is not an 'either/or' question. The future is not a straight choice between Cyberspace and public space; rather it is about redefining attitudes and approaches to create new experiences for users. Just as more and more we will be working in new organisational partnerships of mutual benefit, so the future will be as much about similar innovative partnerships between the physical and the virtual. Horses for courses.

2. **Be a confident advocate for what you believe.**Getting a sense of where trends are leading will be of no particular value if that sense cannot be translated into action, money and into commitment by policy makers. We have been lucky in the UK - the investment that public libraries have received for the People's Network in no small part because of the advocacy of a few very capable people. This is an important lesson for the future. Shouting loud without a case to be heard will not do. Neither will making promises that we fail to deliver. If we have not been in the past powerful advocates for the status of the public library at the centre of social policy, let us excuse ourselves by saying that the time was not right.

Not so now. What I see in the networked landscape is a chance to give real value to communities through libraries. Not throwing away our traditional values and becoming no more than good websites, but having a clear and firm belief in what we have to offer. That will mean defining niches that we can inhabit securely and then making sure we deliver quality to the maximum number of people.

Things such as accessibility before return on investment come to mind as vital parts of what we do. Lending books - something we have done for a long time but remains a high use activity and what better way to give access to the whole world of imagination than through community ownership and recycling? A sense of place within community is also very much part of what libraries might continue to do. Learning will demand not just access to technology but physical space to allow encounter. For many, school is not appropriate. Then there is the management of information in traditional and electronic formats that library services have been doing for some time. The role of community management of information is something that will continue to be vital and which we should nurture and protect. Then, of course there will be growing involvement in digital content creation bringing with it new partnerships and new funding requirements. Public libraries are ideally placed to support and contribute to these programmes of work.

The list will continue to grow I am sure, but will depend on thought, common sense and effective advocacy to produce the desire results. That is something that others will have to own.

THE END

I do not intent draw fundamental conclusions from the matters that I have discussed. Almost certainly by the time this paper enters the public domain events will have challenged some of what I have said - now is not a time for grand and final statements. Local circumstance should always influence local service. However, for all that I cannot end without urging everyone to see now as *the* moment for the public library service to gain rightful recognition as an engine for social policy and one of the most enduring and loved public good services. You must decide what will be the future of your public libraries. I intend to work as hard as is necessary to see that the noble tradition of the UK public library service is translated into a new and more powerful agent for good; becoming the heart and the brain of the Information Society.

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Censorship in Public Libraries

Barbara Biggins* & *Elizabeth Handsley

In this paper we will be discussing the legal obligations owed by librarians to the users of their facilities. In doing so we hope to convey two central messages: first that these are legal obligations, regardless of how one might view the morality of the situation, and second, that the obligations are based not just on a judgment about what is offensive, but on a concern to protect vulnerable members of society.

We start by describing a set of events which actually happened about a year ago to a woman of our acquaintance in Adelaide:

The scene: the local library.

The players: a mum and her children, one of whom is a 10 year old boy

A teenage boy

A member of library staff

The action: Mum and the kids walk past a computer where the teenage boy is surfing the net. The 10 year old's attention is caught by what the teenager has retrieved: the screen is filled with a pornographic image of a woman, naked from the waist down, who has been photographed at close range with her legs spread wide apart.

The dialogue:

Boy: Mum, what's that boy looking at, and why is that lady doing that?

Mum: I might just find someone from the library staff to ask. [they approach the Information Desk] Excuse me, but is that boy over there really supposed to be surfing pornography sites from a computer where little kids can walk past and see it?

Library staff member: We have the same filtering software that the government requires us to have, and that's all we need to do. If some stuff still gets through ... [shrugs].

Exit stage left: one mother, very dissatisfied, and her children.

We assume the teenage boy resumed his activities, if indeed they were interrupted in the first place.

Now, there could be any number of reactions to that scenario.

Many parents, like the woman who recounted this story, would not be impressed. They do not expect that a visit to the local public library will result in their children or themselves being exposed to hard core pornography. Parents may be somewhat inured to being confronted by the covers of uncovered girlie magazines in the local news-agency but unsolicited exposure to hard core pornography is another thing. This is all the more so when you stop to consider that the image on the screen could just as easily have been one of a sex act, even a violent one. Most parents would prefer to be able to choose when and how they introduce their children to the mysteries of sex, and would rather not have pornography as their starting point. In particular, most intelligent and educated mothers would rather bring their sons up with a bit more respect for women's sexuality than the kind of image in question here displayed.

(Such people might also worry for the parents of the teenager: presuming he was underage, they might also feel aggrieved that the library was allowing him to spend his library time in such a manner!)

Some librarians might share the view that the staff member expressed in our story: 'We've done everything we've been told to do, and that's all we have to do.' As this paper will hopefully demonstrate, that is an attitude fraught with risk. Libraries and their staff should not wait to be told what their obligations are, they should seek advice lest trouble find them instead.

Other members of the library fraternity might wish that the matter had been better handled by the staff member. They might feel the staff member could have at least shown a bit more interest in what the teenager was looking at and why the mother was concerned, and given some recognition to the fact that computers need to be carefully placed if filtering software is not completely effective. Some people might have this reaction intuitively, without any knowledge of whether the staff member was right in his assertion that the library had already fulfilled its obligations. It's not just a legal matter, it's a matter of making your clients comfortable.

Some people (librarians and others) might believe the central concept in the story is 'freedom of speech': it's not up to people in positions of authority to restrict the audience for certain messages just because someone might find the message problematic. On such grounds you might conclude that even if there are other obligations on the library, they should be resisted. While the freedom of speech argument is superficially appealing, if it's used to draw a line under a librarian's legal obligation we need to wonder whether somebody has been watching too much American TV, for reasons we will discuss shortly.

Others might lay responsibility at the feet of the mother: it's up to her to protect her children, or to debrief them when they accidentally come into contact with things they don't understand. She shouldn't be allowed, as a mother, to evade those obligations by controlling the actions of others.

Some might take the stance that pornography is inherently harmless anyway, and the mother in the story was just being uptight and moralistic. Or they might argue that there are far more 'offensive' images to which children are exposed all the time: malnourished children in Africa, violence on the streets of Dili and so on.

Now that we've laid out those few arguments about pornography (which, incidentally, apply to other kinds of restricted material), we'll discuss the role of Australian law in regulating access to that material.

Firstly, we'd like to look at the meanings commonly ascribed to the word censorship as it applies to today's topic.

There's been a long history of debate about 'censorship' in public libraries. These debates have, in the past, raged around the suitability and availability of certain texts. Librarians are encouraged to stand up for freedom of speech. (Australian Library and Information Association 1985) Librarians are exhorted not to fear the power of words. Librarians are commonly urged to resist pressure to remove from their shelves or not to stock certain texts, and not to hide behind selection policies. (Cram, Jenny 1996; Schrader, Alvin 1997).

By and large, the issues have centred around which, if any, materials a public library might consider not stocking, from the huge range of unrestricted print materials available in Australia. It's also centred on whether public libraries should provide younger children with access to more 'adult' texts.

In order to understand the issue of 'censorship' in public libraries in the context of Australian law, it is necessary to understand the difference between these two types of issues. One is about the material that is made available to the adult readership in the library and one is about how and to whom certain kinds of material are made available. We believe that the word 'censorship' has something of a bad odour because it is traditionally associated with the former type of issue: censorship is about preventing *any* access to material. Australian law does do some of this, but primarily it is concerned with *how* and *when* and *to whom* access is granted. In particular, it is concerned with regulating the access of children to certain classes of material. In other words, it is a system of *classification*, not censorship.

We have federal law which governs the classification of films, videos, computer games and publications, and sets up the requirements related to their access and display. This system is based on the co-operation of all states and is administered by the Office of Film and Literature Classification (OFLC) which is part of the Attorney General's portfolio. As a minimum, librarians' practice in the area of 'censorship' needs to conform to these requirements.

The legal basis can be found in the *Classification (Publications, Films and Computer Games) Act 1995*, and in the associated *Guidelines* for the classification of each of these media.

The National Classification Code, which is part of the Act, sets out the basic principles which underpin the system of classification. It requires that classification decisions are to give effect as far as possible to the following principles:

. adults should be free to read, hear and see what they want;
b. minors should be protected from material likely to harm or disturb them;
c. the need to take into account community concerns about:

    (i) depictions that condone or incite violence, particularly sexual violence; and

    (ii) the portrayal of persons in a demeaning manner

    (Australia. Parliament, 1996 p35)

    The Act also requires that 'matters to be taken into account making a decision about a classification include:

d. the standards of morality, decency and propriety generally accepted by reasonable adults; and
e. the literary, artistic or educational merit (if any) of the publication, film or computer game; and
f. the general character of the publication, film or computer game, including whether it is of a medical, legal or scientific character; and
g. the persons or class of persons to or amongst whom it is published or is intended or is likely to be published.'

(Australia. Parliament, 1996 par 11)

So, it's clear that Australia's classification system is not based solely on adult freedoms, but gives equal weight to the interests of minors, and to community concerns about particular issues. You'll notice that one interest that's not formally recognised in the legislation is freedom of speech, but this could get some collateral support from the freedom of adults 'to read, hear and see what they want'. But it always has to be balanced against the other interests, including those of children.

This approach can be contrasted with that in the US, where the First Amendment to the Constitution forbids any law abridging freedom of speech. It could be remarked in passing that this does not mean in practice that freedom of speech is absolute - it certainly gives way to matters such as national security! - as witness the McCarthy hearings. But it does mean that freedom of speech is a pretty powerful trump card when it comes to debates between, say, pornographers and parents like the one in our story. There is no such trump card in Australian law. Therefore Australian librarians should be cautious in referring to freedom of speech in any argument about what Australian policies should be, lest they use it in the way the First Amendment is used in the US. (Peck, Robert (2000))

If Australian libraries used the Classification Act principles to guide library policies would it make any difference to current practice?

If we look at the field of publications, the *Classification Act* provides that all publications are Unrestricted, unless they fall into the categories of Restricted R1, Restricted R2 or Refused Classification (RC). Items in this last category cannot legally be made available; this is the sense in which we said earlier that the Australian law does engage in some outright censorship. Items which are refused classification are those which:

> (a) depict, express or otherwise deal with matters of sex, drug misuse or addiction, crime, cruelty, violence or revolting or abhorrent phenomena in such a way that they offend against the standards of morality, decency and propriety generally accepted by reasonable adults to the extent that they should not be classified; or
>
> (b) depict in a way that is likely to cause offence to a reasonable adult a minor who is, or who appears to be, under 16 (whether or not engaged in sexual activity); or
>
> (c) promote, incite or instruct in matters of crime or violence.

The Classification Board's Guidelines elaborate:

> Publications will be classified 'RC':
>
> (a) if they promote or provide instruction in paedophile activity;
>
> or if they contain:
>
> (b) descriptions or depictions of child sexual abuse or any other exploitative or offensive descriptions or depictions involving a person who is or who looks like a child under 16 ;
>
> (c) detailed instruction in:
>
> > (i) matters of crime or violence,
> >
> > (ii) the use of proscribed drugs;
>
> (d) realistic depictions of bestiality;
>
> or if they contain gratuitous, exploitative or offensive descriptions or depictions of:
>
> (e) violence with a very high degree of impact which are excessively frequent, emphasised or detailed;
>
> (f) cruelty or real violence which are very detailed or which have a high impact;
>
> (g) sexual violence;
>
> (h) sexualised nudity involving minors;
>
> (i) sexual activity involving minors;
>
> or if they contain exploitative descriptions or depictions of:

(j) violence in a sexual context;

(k) sexual activity accompanied by fetishes or practices which are revolting or abhorrent;

(l) incest fantasies or other fantasies which are offensive or revolting or abhorrent.

The categories that are of most interest to librarians, however, are R1 and R2, as they do give you some degree of choice as to whether and how to make them available in your facilities. As far as pornography goes, these categories, which are restricted to those over the age of 18 years, can broadly be described as those that explicitly depict nudity, or sexual activity, in a way that is likely to cause offence to a reasonable adult. Publications which are Restricted are highly likely to cause offence to reasonable adults. They certainly aren't just 'girlie mags', they are more the kind of thing you're likely to find in an adult bookshop.

So a library, using Australian classification law as a guide, could make all unrestricted publications freely available, within the limits of their budgets. This would mean that the public library environment is no different from the big wide world outside where all these publications are available. Parents, of course, would need to be aware of this and alert about protecting their children (if that is what they want to do) inside the library as well as outside it.

One potential problem area, in our view, is at the top end of the Unrestricted range of publications. Some publishers push the boundaries of R1 very hard with editions known as the 'Queensland versions'. Queensland does not permit R1 and R2 publications to be sold, so any publisher who wants to publish something for the restricted market, without missing out on the Queensland market, can very carefully carve its publications out to walk a fine line in regard to public offence. Public libraries who wished acquire them and allow them to be accessible to children would have to be prepared to walk that same line. Provided the publication is legally Unrestricted there is no legal issue, but there is still one of public relations and client comfort.

Selection policies might also come into play, with the average porn magazine coming in at around $12 per issue, and the artistic merit being very low.

If a library wished to stock material at higher levels of classification, it would be bound to observe all the statutory restrictions on how and to whom that material can be available. We won't go on about this as we do think it's a bit of straw person: we just don't think many public libraries - if any at all - would be interested in devoting their scarce resources to making such material available. But it is important to bear in mind that the classification system imposes obligations on libraries.

In regard to other media, such as video tapes, there's a sense in which Australia's well developed classification system for films, videos, computer games can make the job easier for librarians. All these materials should carry a classification indicating age suitability (eg M not recommended for those under the age of 15 years). Higher classifications such as MA (15+), and R (18+) have legal force in regard to delivery or screening to underage children, and these restrictions should be observed in public libraries just as they should be in the local video shop.

But what about the Internet? Let's go back to our initial example of the child's unwelcome exposure to a pornographic image on the public library computer. Does the law have anything to say in this regard?

Did the Librarian in our story have any legal obligation to the children who walked past the computer screen? Did he have any legal obligation to require the teenager to remove the images?

Australia's classification laws certainly place limitations on the exhibition of films or publications at the higher levels of classification. The library in our example was in exactly the same position as a cinema, as its equipment was being used to display a film to the public. It doesn't matter that the person operating the equipment was not an employee of the library. And in case you're wondering whether the static image that the teenager had retrieved qualifies for description as a 'film', the

Classification Act defines that term as including 'a cinematograph film, slide, videotape and videodisc and any other forms of recording from which a visual image including a computer generated image can be produced'. The definition excludes certain things, but not Internet content.

Therefore it's pretty clear that the image was a 'film' for the purposes of the Act. It's also safe to assume that the picture in question would have been classified at least R, and therefore not to be shown to anyone under 18. All this means that the library was liable to exactly the same penalties that a cinema would be if it exhibited the same material to a person under 18. We believe this penalty would extend to exposure to the teenager (if he was under 18) as well as to the 10-year-old passer-by.

The *Online Services Act* also covers Internet content. This is administered by the Australian Broadcasting Authority, which is empowered to investigate the source of potentially R and X rated content and if Australian to issue take down notices. If the source is overseas then the ABA can request service providers to block the offending site. (Handsley, E and Biggins, B 2000) Therefore any library that acts as a service provider needs to be aware of its obligations under that legislation as well.

Internet pornography in public libraries also has child protection ramifications. Mental health professionals have expressed growing concern about the impact of exposure to pornography on the child's developing sense of sexual identity. (Benedek, Elissa and Brown, Catherine (1999); Wartella, Ellen (2000); Zillman, Dolf (2000)). Once you recognise the developmental implications of pornography for children, it's only a small step to conclude that the difference between exposure of children to pornography and sexual abuse of children is really only one of degree. Therefore for example the SA law which imposes on 'community professionals' a duty of care to protect children against child abuse could be interpreted as extending to librarians and the exposure of children to pornography. Public librarians might do well to check state law in regard to their duty to prevent and report child abuse.

Furthermore, it may be only a matter of time until someone tests the proposition that librarians owe a duty of care under the common law to protect children from such harmful exposure. Breach of such a duty could lead to a successful damages suit in negligence. This might seem a little far-fetched, but bearing in mind that we're undergoing an information revolution it's reasonable to believe that we're going to witness many things that would have been unheard-of only 15 years ago. The number of young children who are exposed to pornography is going to grow exponentially unless steps are taken. We just don't know how bad the consequences can be, but we do know that the likelihood of bad consequences is also growing exponentially with the number of children exposed.

What's to be done to protect children in this environment? There are real hazards for the unwary child or parent. Is the librarian to be a protector or merely an impartial provider?

Some in the community are unconcerned about such issues. They claim that children today are very 'media savvy', and don't need protection. Others take the view that while children may be technologically more savvy than their parents, they still need protection from content that exploits their immaturity and could harm their development. They argue that 'Knowing how to light a match doesn't stop you being burned', and 'We shouldn't be adopting a 'Little BoPeep' approach: if you leave them alone, they *won't* necessarily come home, and they won't necessarily have their tails behind them either'. For those people who see this as an issue of being able to use their library in comfort, and in the knowledge their children won't be harmed, there will be a temptation simply stop using libraries with their children unless those libraries have adequate policies on Internet use (among other things). This possibility arises quite separately from any of the legal issues that we have identified.

So, are the existing policies that are in place in libraries adequate?

From our brief survey, it would appear not. Most such policies place an onus on the user not to access porn sites, and most require parents to be in charge of children who access the Internet in the Library. (Rockhampton Public Library; Marion Public Library; Queensland State Library)

That's OK as far as it goes, but none seems to adequately deal with the issue of reducing the likelihood of accidental exposure to other users' content. Surely Internet screens should be placed so that content can be seen (at least from a distance) by library staff? This happens in some libraries, but not others.

Libraries can certainly be in the vanguard of offering low cost introduction to the Internet courses designed specifically for parents who haven't yet experienced the Internet and are severely disadvantaged in their ability to supervise their children's Internet experiences. Young Media Australia has researched and designed such a syllabus, which includes ways of keeping children safe on-line (Young Media Australia 1998 *CyberSafety*) .

There is also an excellent series of library based programs prepared and available from the Canadian Media Awareness Network (MNet). They are now putting together a national agreement with the Canadian Library Association for the use of the workshop resources in the public library sector. Anne Taylor from MNet will be in Australia and keen to talk to public library people about this project, at the end of November .

Libraries can also be a source of information about protective strategies. See for example Turow, Joseph and Nir, Lilach (2000) and the very attractive *Protecting Children Online: an ECPAT guide.* Libraries can provide ongoing demonstrations of filters and discussions of their deficiencies. These deficiencies were pretty evident in our opening example. Libraries can recommend the use of server based products that access selected sites on the Internet, such as SmartZone, KidzNet, which give more effective support to the provision to children of developmentally appropriate access to the Internet.

Certainly in Australia, the use by libraries of blocking software is not unconstitutional! (Wallace, Jonathan D 1997).

There are many effective ways in which librarians can be both provider and protector. Indeed Australian law requires it.

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Proceedings

Heads or Tales: Can Tacit Knowledge Really be Managed

Karen Bishop

Managing what we know about what we do at work:

With only 20 minutes to share my knowledge with you, I will get straight to the point:

Managing the implicit, highly personal knowledge about what we experience on a day-to-day basis as we go about doing our work is no easy task!

We all learn from our experiences, and then use what we know to achieve our goals and gain our just rewards. With the advent of the concept of KM however, we are being asked to stop and think about what we are doing, and then share our articulated sets of understandings with the rest of our colleagues.

This management imperative raises several questions and issues, a few of which are listed here for consideration:

Why are organisations of all types interested in managing the sets of understandings (the 'tacit' knowledge) their employees normally carry around in their heads?

- How do we persuade/encourage individuals that it is in their best interests to share what they know, and to learn from other people's experiences?
- How do we decide what knowledge is valuable to the organisation
- How is it possible to convert 'tacit' knowledge into explicitly communicable messages, taking into account the implicit nature of human instinctive learning from experience?

Why are organisations of all types interested in managing the sets of understandings (the 'tacit' knowledge) their employees normally carry around in their heads?

Firstly, in the current economic environment, more emphasis is being placed on the importance of our intellectual assets ie the knowledge we have about what we do, and how this contributes to organisational success.

It has also become apparent that much of the really valuable knowledge employees gain through their experience, is not recorded or shared. This means that many organisations are not aware of what knowledge they actually have at work. This state of affairs has been epitomised in the much-quoted statement by Lew Platt, CEO of Hewlett-Packard, "If only HP knew what HP knows, we would be three times as profitable".

Secondly, it appears that many organisations today feel the only way to survive and prosper in a world characterised by speed, complexity, global competition, down-sizing and constant change, is to work smarter, not harder.

The key to working smarter, say organisational behaviourists (eg Bennis, Hackman and Wellins), is to collaborate with one another. According to these and other management theorists (eg Drucker and Gibson), collaborating, and exchanging knowledge with colleagues on a regular basis, is likely to result in a situation where what we can achieve as a group as a whole, is greater than the sum of what we can achieve as individuals working alone.

Nonaka, Ichijo and Von Krogh 's observation of 'knowledge-aware' companies led them to conclude that systematically exchanging what we know with one another (ie 'managing ' our knowledge) can result in:

- faster knowledge creation and innovation
- more efficient and effective use of existing organisational know-how
- reduced risk of loss of valuable knowledge if/when people leave the organisation.
- better understanding our customers/clients and anticipating their needs

These scholars (ibid) also believe that managing knowledge for improved individual and organisational performance requires a set of organisational activities specifically designed to facilitate or 'enable':

- the creation of new knowledge
- the exchange of existing organisational knowledge
- the retention of lessons learned from our experiences at work
- enhanced customer/client relationships

How do we persuade/encourage individuals that it is in their best interests to share what they know, and to learn from other people's experiences?

'Knowledge-enabling' organisational activities that encourage a 'knowledge-aware' culture (and an environment conducive to tacit knowledge exchange) include:

- promoting the 'what's-in-it-for-me' benefits of learning in a constantly changing, complex environment, where today's knowledge is tomorrow's history i.e. to stay relevant, knowledge has to be constantly re-worked, evaluated and updated.
- creating a climate of mutual trust, and respect for other peoples knowledge.
- communicating a 'vision' of organisational purpose, creating a sense of unity for employees through identity with the organisation and its mission.
- empowering people to influence organisational strategy and be part of 'the big picture', by pointing out how valuable their knowledge is, and how it might contribute to organisational success.
- gaining the personal commitment of employees to the goals of KM, and 'ownership' of KM initiatives, by encouraging their active participation in projects, activities, ideas, experiments etc.
- encouraging the development of 'community-of-practice' groups and mentoring/training programmes to transfer important organisational knowledge.
- helping change the mindsets of employees from a 'winner takes all' attitude, to an 'if I win, we all win' attitude by developing a system of incentives and rewards for knowledge-sharing behaviours.
- placing high value on experimentation and new ideas.
- respecting/rewarding employees who engage in 'networking' activities, and those who make their knowledge highly 'visible' by publishing papers, giving presentations etc. 'Networking' involves getting to know what other people know (or need to know), and then putting them in touch with people who can benefit from (or add to), this knowledge.

How do we decide what knowledge is valuable to the organisation?

- An in-depth understanding of the purpose of the organisation, what constitutes organisational success, and what kind of knowledge contributes to individual and organisational effectiveness, is a pre-requisite for making decisions about the relative value of experiential knowledge.
- This understanding helps us make decisions about what knowledge should be retained as part of the corporate memory for later re-use, and what it is that employees need to know to do their jobs effectively and efficiently.

How is it possible to convert tacit knowledge into explicitly communicable messages, taking into account the implicit nature of human instinctive learning from experience?

The purposeful and systematic management of knowledge processes (ie the creation, use, exchange and retention of tacit knowledge) in your organisation could include such activities as:

- creating opportunities for all staff to engage in face-to-face group activities such as meetings, skills workshops, presentations, seminars and social activities. It is at social occasions like these that people are most likely tell their tales, converting their tacit knowledge into explicitly communicable messages, in the form of success stories or lessons learned.
- observing the ways in which knowledge is currently being used and communicated in the organisation, and what barriers might affect the exchange of tacit knowledge within the organisation.
- working with the IT department to devise ways of using information technology and communication tools for collaboration and knowledge exchange, ensuring the virtual environment is designed to reflect the information-seeking and knowledge-sharing behaviours of the users.
- working with HR to devise incentive schemes and rewards for employees' contributions to knowledge-based activities.
- promoting a collaborative, knowledge-aware culture in which knowledge-sharing is viewed as an essential element of professional participation.

Skills required to manage the experiential knowledge of employees:

The knowledge management actvities listed above are designed to facilitate the exchange, use and retention of tacit knowledge at work. Successful implementation of such knowledge-enabling initiatives in the workplace, requires the knowledge manager to apply several skill-sets, including:

- an understanding of organisational culture and group dynamics, and how organisational behaviours such as trust and respect might affect knowledge exchange in the workplace.
- an ability to manage the changes necessary to move towards a more knowledge-aware organisational culture.
- superior communication skills and the ability to lead, influence and empower.
- an understanding of the capabilities and limitations of information technology and telecommunications as tools for knowledge exchange and collaboration.
- an understanding of knowledge-seeking behaviours and the ways people convert information into knowledge.
- an understanding of how best to support a learning environment at work.

Conclusion

Turning the knowledge people carry around in their heads into explicitly communicable tales, means turning our 'information-as-product' services to 'informing-and-empowering' processes.

As librarians, this means stepping out of the mindset of being passive providers of information, to becoming active participants in learning and development processes.

Networking guru, Robyn Henderson, epitomises this mindshift thus:

> "Man cannot discover new oceans until he has courage to lose sight of the shore"

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Proceedings

The impact of change on research libraries: the State Library of New South Wales

Maxine Brodie

Introduction

Change is a process marked by the alteration or substitution of one thing for another. A research library is a system made up of clients, library facilities, staff, collections and services, and a complex web of interrelationships, including those with other libraries, organisations and the wider political, social and economic environment (Buckland, 1988). Some changes are profound, affecting all parts of the system; some are more specific, affecting different parts. As this paper is one of four providing a university/research library perspective on the impact of change, I will concentrate on issues more specific to a large public research library charged with the care and continuing use of our documentary heritage. For the State Library of New South Wales, change is most evident in our clients, collections, capabilities and our relationship to the wider context.

Background

The State Library of New South Wales is the major public reference and information service for the people of New South Wales. Our national and international reputation as a research library rests on the expertise of our staff combined with the unique and comprehensive nature of our collection of the documentary heritage of New South Wales. The Library traces its origins to 1826 with the opening of the Australian Subscription Library. In 1869 the NSW Government took over responsibility for the library and created the Sydney Free Public Library. In 1895 the name of the Library was changed to the Public Library of New South Wales and again in 1975 to the State Library of New South Wales.

The Library's collection of 4.9 million items contains both published and original materials in a wide variety of formats. Many of these items are of national significance, such as 19th century images of Aboriginal peoples, the Tasman map, nine of the eleven known journals of the First Fleet, the papers of Sir Joseph Banks, NSW newspapers dating back to 1803, the first book printed in Australia, the oldest surviving Australian photograph and architect Jorn Utzon's papers and drawings relating to the Sydney Opera House. The collection has recently been valued at $1.509 billion, reflecting the unique nature of the materials held.

Our mission is to inspire, educate, inform and entertain by providing quality library and information programs to support the cultural, research and educational needs of our clients. We value respect for knowledge, commitment to learning and integrity of service. Our services range from providing quick access to current information through to in-depth research into historical materials. Services are provided to people who visit the State Reference Library and the Mitchell and Dixson Libraries in Macquarie Street, Sydney and to remote clients via mail, telephone, fax, the website or electronic mail. The Library receives 1.2 million onsite visitors, registers 1.3 million uses of its collections and has over 4.5 million page views (16 million hits) on its website per year. We also run an extensive program of exhibitions and public events designed to attract tourists, clients and supporters.

Clients

Our individual clients are extremely diverse in age, educational level, cultural background and physical abilities. They approach the search for information in different ways depending on their role or needs, for example, as an academic researcher or as a casual browser. We also have strong relationships with a wide variety of organisations at a local, regional, national and international level. These 'organisational clients' encompass libraries, other cultural institutions, such as galleries and museums, government agencies, large and small businesses, and all levels within the education sector (Brodie, 1997). Such a broad client profile means that, in addition to providing general services, we also have to design services for specific client groups.

In 1999 we began a co-ordinated program of client research to inform our development of services for these different client groups (Burgess, 1999). The initial focus was on the perceptions of users of the Mitchell Library - the service for Australiana research. This has been followed by some research with clients of the State Reference Library. Put simply, the major difference in client perceptions of the role of the two services is this: the Mitchell Library *is a* community; the State Reference Library is *for the* community. Many Mitchell clients view the Library as a constant in a world of change and as a highly personal workspace. This means that all change is regarded with suspicion, by old and young alike. Perhaps surprisingly, this theme is also reflected in virtual services, with clients reporting repeat usage because of the 'safety and credibility' of the website.

The Mitchell Library is used by four distinct client groups:

- Professional readers - historians, academics or researchers specialising in Australian history or literature, who typically have an intense and ongoing relationship with the collections and staff, often over many years
- Personal interest readers - family or local historians, who often have less experience in library use, have a strong personal connection with their research and can require frequent assistance
- Work/business readers - who conduct research for business purposes, not necessarily restricted to Australiana, for example, picture researchers
- Students - honours, postgraduate and doctoral, who may be making the transition into new conceptual frameworks, such as those in cultural studies.

All groups, however, including 'virtual' clients, share the expressed desire for increased independence in library use. The Library's response to this has been the development of a tiered service model. The first tier is provision of introductory information and services for first-time or infrequent users. The second tier provides subject assistance and item request services for clients who already have the basic information. The third tier is for researchers with advanced requests requiring specialist staff expertise, or specific spaces and services for long-term research. Elements of each tier will be reflected in both physical and virtual services.

For this model to succeed, many clients will need assistance to develop effective skills to find, use and evaluate information. The State Library will need to take a more active role in the promotion and development of information literacy as a key competency for the 'lifelong learner' (Bundy, 1998). Clients using online services also need to be technologically literate to cope with the 'mysteries' of computer and Internet use. While technological barriers are disappearing through greater exposure for the younger, more affluent city dweller, they are still very real for other socio-economic groups. The Library's service offerings need to take this inequality of access and experience into account.

Years ago, the Mitchell was the exclusive domain of the professional reader. Now almost 75% of clients are in the personal interest or student groupings and many of them view the small, close-knit professional group as elitist. Not surprisingly, many professional readers see this change as an erosion of their physical, intellectual and social space. Increased diversity in the background, skills and intellectual approach of clients is a challenge for the provision of research library services. This increasing diversity highlights the need for more research into the changing nature of researchers' needs and behaviours, particularly in the humanities. Reports prepared recently for the Coalition for Innovation in Scholarly Communication (2000) indicate the need for more systematic investigation into the changing nature of research in and across disciplines.

Collections

Contemplation of information needs in the humanities leads naturally to a discussion of the changing nature of library collections. Sukovic (2000) summarises the requirements of researchers in Australian literature as access to primary sources and unpublished materials, access to books, more comprehensive bibliographic tools and good physical access to the collections. The simplistic 'just put it all online!' response to these needs is inappropriate both economically and socially. The cost of converting millions of textual items to electronic format is enormous and difficult to justify. Equally importantly, for the researcher there may be much more to the content than just its 'container' - information can, and in many cases, does have a 'social life'- the combined significance of form and content (Brown and Duguid, 1999). The implications for libraries of documentary heritage is clear - preserve the original and make it accessible. The challenge for the State Library of New South Wales is to obtain the resources to improve access for researchers - to ensure, at the very least, that the catalogues and indexes of the unique Mitchell collections can be searched online. The first step in this process was completed in July this year with the addition of the 20,000 items in the Dixson Printed Books Collection to the Library's web catalogue. Our aim is to complete the Mitchell Printed Books collection of over 200,000 items in time for the centenary of the Mitchell Library in 2010.

Resources in the humanities are, of course, also beginning to be 'born digital'. The exhortation to 'preserve the original' then presents another interesting challenge for research libraries like ours. For us it will never be an either/or proposition - it will be paper *and* electronic, not paper *or* electronic. This dual role sets us an interesting funding problem. Our funding models and bids need to be built around the total value of our collection asset, deriving ongoing, related funding streams to support acquisition, access and preservation activities. While not as severe an impact as in university libraries, our acquisitions funding has also been eroded by inflationary and foreign exchange pressures. As one response to this problem we are, like the universities, providing licensed access to electronic sources in non-heritage areas of the collections. However, with our mandate to preserve documentary heritage for future generations, it is worrying to witness the headlong rush of libraries into the 'access not ownership' model without adequate steps taken somewhere in the system to ensure continuity of access. If publishers' stock inventories disappeared in the 1970s because of a change in accounting and tax practices (Hawkins, 1993), what guarantees are there that any commercial organisation will continue to provide electronic archives when these no longer provide an economic return?

Our paper collections house items hundreds of years old and still in useable condition. Items on acid paper can be identified and converted to another format with a long life span for reasonable expense. Digital objects can and have become unusable in very short time spans because of changes to technology, lack of standards and poor management. This situation is often referred to as the 'digital Dark Ages' (Kuny, 1998) or the 'website house of cards' (Dempsey, 2000). Digital formats are excellent for fast communication and widespread dissemination, but are not yet proven for long-term preservation. Orators like Plato were, of course, equally disparaging of the written word in their time. Digital formats are beginning to have a profound effect on creation and distribution of information, eliminating the barriers of time and geography. Like all formats, however, digital will find its own niche and coexist with, rather than totally replace, other media (Borgman, 2000).

Our collection development policy applies equally to this format as to all others. Is it content that we would collect and preserve comprehensively? Is it primary material? If so, we must ensure it can be archived and used in the future. Is it an area where we collect a representative sample? Is it secondary material? If so, selective archiving, or regular 'snapshots' may be appropriate. Has it been archived by another 'memory institution'? If so, we may need to negotiate access, but not archive it.

Capabilities

Two key capabilities are important in the light of changes in our clients and our collections. These are the competencies of our staff and the success of our collaborations with other organisations.

Arms (2000) believes that almost all the skills of the information professional can and will be undertaken more effectively by the computer, except perhaps those queries involving human judgement. He assumes this means that the high cost of human labour in libraries can be eliminated, or at least significantly reduced. The banks and other users of automated contact systems have already proved this to be true - to their cost! People want and need fast access to information, but they also want and need human interaction and a context in which to make sense of their discoveries. If the banks need 'virtual tellers' then we still need 'virtual storytellers'. We have recently reaffirmed that our core skills base is that of the information professional. However, the skills to understand and manage the information life cycle and our clients' needs now need to be complemented by other specialist skills, such as computing science, marketing, accounting and finance, human relations, public relations, research and advocacy. The State Library is working to achieve this new mix of skills in its Workforce Management Plan, in an environment of enforced downsizing in the NSW public sector.

One of the distinguishing features of the 'networked world' is distribution of roles and responsibilities. Australian libraries have had a long history of networking to achieve common goals, facilitated but not dictated by technology. Despite financial and political pressures most of these traditional relationships endure. One valuable by-product of change is that new partnerships are becoming possible in the digital environment. Cultural institutions are collaborating with each other to improve services for users. One recent example of this is the launch of the PictureAustralia service (www.pictureaustralia.org), which allows clients to search across the pictorial holdings of the National Library of Australia, the State Libraries of NSW, Tasmania and Victoria, the Australian War Memorial, the National Archives of Australia and the University of Queensland Library.

Another new form of partnership is emerging in the creation of collaborative learning environments. The State Library is now in its second year of teaching a unit in the postgraduate offerings of the School of Information Studies at the University of Technology, Sydney (see paper by Todd and Kallenberger in these proceedings). In this unit, called *Virtual Information: Collections, Resources and Services*, the State Library provides students with both the intellectual framework and the practical application of ideas in its own 'living laboratory'.

As the Library continues its drive to attract additional funding there are also new opportunities for collaboration with the private sector and with university research programs (Brodie, 1999). As with all collaborative efforts, the major investment continues to be in building and maintaining viable working relationships across organisations with different cultures and aims.

Context

Libraries of documentary heritage are part of a broad canvas of political, economic and social values. The set of values that produced the Sydney Free Public Library in 1869 cannot be automatically assumed for the future. Nowhere has this been more evident than in the ongoing debate over digital copyright and in proposed pay-per-view models of information access. While it is true that 'free information' is a myth (Kaser, 2000), free access to information for citizens is the corner stone of the public library movement and has been seen as a fundamental right and requirement of a democracy. These rights have been reflected in the legal deposit legislation that supports growth of collections in libraries like ours. How these arrangements translate into the digital environment is yet to be agreed (ALIA, 2000). It is our view that appropriate mechanisms are needed in the digital environment to maintain a balance between the rights and remuneration of individual authors and reasonable access and responsible usage by individual citizens. Recent research in the UK highlights the important cultural role played by libraries in encouraging readers to experiment with unfamiliar authors and genres without financial penalty. As it turns out, this 'risk-free experimentation' is important for encouragement of diversity - and also for book sales! (Sanderson, 2000).

The current political emphasis on an 'information economy' rather than an 'information society' challenges libraries like ours to establish indicators of economic value and relevance. In this climate of economic rationalism it would be particularly disturbing to see the extremes of National Competition Policy spread beyond competitive tendering to the actual provision of public library services - as the 'community service obligation' of a commercial organisation. Fortunately, there has been a recent resurgence of interest in the equal importance of 'social capital' to community prosperity (Cox, 1995). Community research (Cox et al, 2000) reinforces the importance of public libraries to the social fabric. Libraries provide a 'safe space' for the sharing of resources and physical space among disparate groups who may not otherwise find the opportunity to interact. The enduring social importance of libraries like ours as physical spaces should not be underestimated. As already mentioned this notion of 'safety' and credibility translates into clients' expectations of our virtual identity. Again, our future identity is clearly not a choice between 'real *or* virtual' - it will be 'real *and* virtual'.

Talking about 'the impact of change on research libraries' could suggest a dangerous passivity on our part. While libraries do not set the political agenda it is important that we keep demonstrating our social and economic value in the *lingua franca* of the times. If we are successful in this the title of these papers for future conferences will (and should!) be 'the impact of research libraries on change'.

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Proceedings

Building a Knowledge-based Economy and Society

Jo Bryson

Introduction

The world is witnessing a phenomenon, the effect of which is similar to, the industrial revolution and the invention of the printing press combining at the speed of sound. Information, transformed into shared knowledge and intellectual capital, is changing the face of work, education and every other aspect of life. Its effect is felt in changing business relationships and global markets, leading to a new form of co-orpetition, co-operating with the competition; and in profound transformations of industry structures and international cartels. It is also to be found in the intersection of changes in technology, regulation and demographics. This phenomenon is both the cause and effect of the global information economy and society.

This paper provides an overview of the forces shaping the future of the knowledge economy and society, it identifies its characteristics and explores four building blocks; infrastructure, opportunities for lifelong learning, economic growth, and service delivery.

National strategies for Singapore, the European Union and Australia are considered, as is the role of libraries and information services in the global information economy and society.

Understanding the forces that are shaping the future of the knowledge economy and society.

After centuries of lying dormant, information is now considered to be a wealth generator, not just in terms of contributing to economic performance of the organisation, but as a major contributor to new service-based and knowledge based industries. The information society now creates one out of four new jobs and the number of job vacancies is increasing. Global e-commerce will reach between $3.2 to $5 trillion by 2003, which is between 5% and 7.2% of world trade.

The questions for librarians, information or knowledge professionals is 'Do you understand:

- How fast this trend is emerging in different markets around the world?
- What are the likely impacts?

To answer these needs a knowledge and understanding of:

- The type of change occurring;
- The technologies that are propelling it;
- The technology and information choices that competitors are making;
- Which organisations are in the lead;
- Who has the most to gain and to lose;
- The investment strategies of your competitors vis-a-vis the trends; and,
- the variety of ways these trends may influence customers demands and needs.

The winners will be those who are willing to devote the time and intellectual energy necessary to understand and influence the forces that are shaping the future of the knowledge society.

The speed and type of change that is occurring and the technologies that are propelling it

An example of the forces shaping the future of the global knowledge economy and society is the

Internet and Wireless Application Protocol (WAP) technology. The number of Internet users globally is now around 190 million and will reach 250 million by the end of this year. Yet within four years more users will be accessing the Internet through mobile technology than on fixed-lines. The take-up is predicted to be that by 2001, the number of mobile phone users will be double the number of PC users worldwide. Other estimates suggest that there will be 100 million PCs and 400 million wireless devices worldwide next year. By 2002 there will be one billion wireless subscribers. In 2003, despite the world having 500 million Internet users, mobile commerce will overtake fixed e-commerce, with most mobile calls being made to databases not to people. By 2005, 500 million WAP handsets will be shipped. Yet despite this hype and growth, a significant proportion of the world's population have never heard the sound of a dial tone. Such are the disparities of the global knowledge economy and society.

Apart from size and speed, an interesting feature of this trend, is that it is Europe and Asia, not the US or Australia, that will be the driving force behind the next generation of wireless mobile commerce services.

The technology and information choices that competitors are making

A second interesting feature is that this is not a telecommunications or technology issue, it is a content issue, and therefore one in which the skills of librarians, information and knowledge professionals can play a part. By this, it is meant that the technical know-how is in place, but the mainstreaming of the application of the technology to the consumer marketplace is dependent on there being content-rich services.

The successful companies in this market space will be those that can differentiate their services from others in terms of personalised, localised, specialised, customised services. `This means databases that are rich in information that can be manipulated to provide individualistic services, in the language of choice, 24 by 7, customised to the individual and the exact polling location of the mobile phone. As an example:

- Transactions - customised information on stock trading shifts and latest floats relevant to their portfolio investments, proactively delivered to their WAP phone, enabling them to buy or sell at the push of a key;
- Database - theatre and restaurant guides on request, tailored not only to meet their cultural and culinary tastes, but also delivering information on the two closest theatres or restaurants to the cross street they are standing on anywhere in the world. At the push of a key a reservation can be made, and a menu selected;
- Recreation - latest updates in scores of a favourite tennis champion, football or rugby game, as well as a host of wireless games such as hangman to play on the WAP hone whilst waiting in a queue, for a friend at the wine bar, or for the train;
- Information - news and weather updates, tailored to the location of the phone, or its home base; and,
- Mobile office - mail, calendar, contact numbers and other information available anywhere, anytime.

Which organisations are in the lead and who has the most to gain and lose

Mobile commerce is seen as Asia's opportunity to leapfrog the United States in the global information economy in e-commerce and global business. For a variety of reasons, the take-up of e-commerce has been slow in countries such as Japan. This tend is being reversed in the mobile commerce environment as Japan is being used as a test bed. Its flagship, DoCoMo, (Do Commerce Mobile) by mid this year had 13,000 sites, 20 search engines and 7 million subscribers. People are willing to pay for content if it is tailored specifically to them. In Japan people pay to play interesting games that, when they win, can be exchanged for loyalty points. An example is wirelessgames.com, which experienced 35,000 plays on its web site in the first six weeks of its operation. It now has 70,000 games, increasing by 4,000 per day. It employs aggressive marketing techniques, such as competitions, to keep its top games people logged on. It is a prime example of how organisations with intellectual capital not physical capital will prosper in the global information economy.

Mobile commerce is about strategic alliances between the telecommunications companies who see WAP applications as a cash cow in the use of their networks; intermediaries that package together and customise the offerings to the consumer; and the content providers who develop the games. This is a symbiotic relationship in a vertical market where profits are shared 10% to the telecommunications company providing access; 40 - 70% to the packaging companies; and 20 - 50% to the content developers.

The manner in which these trends will influence customers and service delivery

The future will be a multi-network, multi-device environment delivering a quasi-infinite variety of interactive databased services over IP. In addition to wireless technologies, access will occur through digital TV set-top boxes, digital assistants and consumer appliances such microwave ovens, refrigerators, and in-vehicle devices such as road navigation systems. NTT estimates that by 2010 only one-third of their customers will be people, the rest will be cars, bicycles, portable PCs, boats, vending machines, and even pets. The change is illustrated by the fact that Microsoft is changing its mission statement from 'a computer on every desk and in every home' to 'empowering users with great software any time, any place, with any device'.

Characteristics of a global information economy and society

A global information economy and society is one in which:

- Distance poses no obstacle to economic development, social intercourse, learning, voluntary action, adequate health care, business success and full participation in society;
- Knowledge is increasingly available to everyone, packaged in a manner to meet individual social, literacy and cultural needs, allowing everyone to make wiser decisions in all aspects of life; and
- Everyone is not just a consumer of knowledge and content, but also a creator.

It is a challenge that is global in nature. The issues of the digital world possess transnational implications. It entails the creation of an international environment in which:

- Sufficient infrastructure is in place to meet needs regardless of location. This is not just a matter of the proximity of physical and virtual components of the infrastructure, but also a matter of choice of infrastructure to suit means, as well as one that is affordable, reliable and of quality;
- Individuals, no matter what the political regime, are aware of knowledge sources and skilled in determining and satisfying their information needs;
- There is recognition by governments and organisations that knowledge contributes to individual well being, societal and economic growth. This recognition is translated into action when new models for lifelong learning are encouraged;
- Knowledge-based service industries form a significant proportion of GDP and there is a reliance on knowledge technologies to foster business competitiveness, economic and employment growth;
- Private sector investment and innovation capacity is a key driver in economic policy;
- Public sector activities compliment this by setting the example in electronic service delivery; in delivering health and education programs, in enabling rapid and electronic access to information, personnel and services; and
- There is worldwide mutual recognition and multilateral agreements that support consumer, legal and security arrangements. This includes an internationally compatible light-touch legislative framework to manage privacy, access, consumer protection, authenticity, security, and protection of intellectual property rights in the electronic environment, as well as effective security and authentication mechanisms to engender trust and consumer

confidence.

These characteristics can be grouped into four building blocks:

- Infrastructure provision;
- Lifelong learning;
- Economic growth;
- Service delivery.

Infrastructure

In a perfect state, an information economy and society is one where there is ubiquitous and convenient access to content rich sources from anywhere. Anywhere could mean from the home, car, school, workplace, or the wide-open spaces of outback Australia or Outer Mongolia. The access point, or infrastructure may be:

- Physical - such as a library, community access centre or telecentre; or,
- Virtual - such as the Internet through a WAP phone, or using the world wide web, regional portal or a vortals from a PC.

Access to what constitutes the information economy and society still remains closely linked to wealth, education and employment. For many people, even in countries and regions where there are high standards of living, the main route of access is still the workplace. There is also a lack of awareness with those who have the most to gain, notably the elderly, the unemployed, and the handicapped and disabled.

Whilst the industrial revolution caused massive displacement of people to the cities, the knowledge revolution is causing a massive displacement between those who have and understand their access to the global information economy and society, and those who do not. This is felt even in Australia. At the top end of the social ladder, access to infrastructure allows for a 'seachange' enabling people to move away from the cities back to a more preferred lifestyle in a rural area whilst still enjoying a generous income. It also provides the hope in slowing the drift of youth from rural towns to the cities and in reversing the consequential demise of rural Australia by engendering new work opportunities such as call centres. However, regional disparities are still very marked and in remote and very remote areas, price and lack of reliable wide band communications are still significant barriers to entry to the information economy and society.

Isolation factors can be assessed on geographical, safety, sociological and economic grounds. Access to quality and reliable broadband voice and data services is as important as income, personal mobility and attitude in overcoming the social and economic difficulties experienced in rural and remote communities in Australia and elsewhere in the world.

Opportunities for life long learning

The presence of infrastructure alone does not constitute the solution to access to the information economy and society. Individuals are faced with a multitude of information outlets and need the skills and understanding of how to use these to best advantage. Work, social communication, and the ways in which these and the quest for information are carried out, have all changed significantly in the past decade. Changes in the work and social environment also mean that people must learn constantly and differently to adapt and progress. Learning is no longer limited to formal education; it is part of the experience of life.

The learning environment that is necessary to cope with the lifelong challenges associated with constant changes in technology and the social and economic environment, must in itself be lifelong. Lifelong learning will be essential to individuals in a knowledge economy and society, as finding and keeping jobs will depend upon access to learning opportunities to upgrade skills and knowledge throughout their lifetime. The lifelong learning experience will also include the need for an awareness of the opportunities for social, cultural and personal development arising from these changes in the technology, social and economic environment.

Access to relevant information is not the only panacea. Individuals will need to acquire new abilities in identifying personal needs, locating information sources, and, discerning an appropriate level and content to suit their particular circumstance. A third dimension, is the requirement that the learning experience is culturally relevant, as well as being relevant to experience and age. In all of this, there is a place for formal education institutions, as well as an emphasis on learning beyond the classroom in venues such as libraries, professional associations and self-teaching situations. As an example, the latter can be achieved by borrowing the book 'Internet for Dummies' from the local library.

Economic Growth

The base line in creating opportunities for economic growth in the global information economy and society is in creating a trusting and confident trading environment. This has to be achieved both at the level of individual solutions as well as at the level of the infrastructures supporting these solutions. The focus must be global and focus on:

- Scalable and usable authentication infrastructures, including electronic signatures and/or biometrics;
- Security architectures, including smart cards;
- Protocols and transactional models, including electronic payments;
- Metadata standards, to characterise and assist access to quality information;
- Personal rights to empower users, including privacy, confidentiality, copyright;
- Technologies and systems to fight abuses, fraudulent or criminal activities.
- Light-touch legislative framework, to manage privacy, and protection of personal data, access to personal and government information, preservation and management of public records, consumer protection, authenticity of electronic transactions, admissibility of electronic signatures for legal purposes, security, and protection of intellectual property rights; and
- Effective security and authentication mechanisms to engender trust and consumer confidence, including electronic signatures, accredited certification authorities and electronic certification services that can be liable for damages should they act negligently in implementing certification, signature creation or verification.

Once this trusted environment is in place, it then becomes easier to attract new industries and diversity, assisting industries towards an information and service based economy.

Service delivery

Economic commerce and online service delivery are key drivers in the reduction of time-consuming and costly bureaucratic processes in both the public and private sectors. Governments and the private sector are working to:

- Provide more efficient services through seamless access to information and services eliminating the business to business and business to consumer boundaries and associated delays in processes;
- Provide better customer relationships through the electronic delivery of a wide range of services including lodgment of forms, applications and registrations, seven days a week, 24 hours a day;
- Ensure a choice of service delivery mechanisms such as the Internet, telephone, call centres and one stop shops;
- Target specific community needs for the delivery of online services; and
- Create competitive and productivity advantages through the elimination of paperwork where possible and delivery of more efficient supply chains such as electronic procurement and

tendering.

Technology provides the means by which new products and services can be made available to locations that have traditionally been difficult to reach. Regional and remote areas will have a renewed focus as the new technologies mean that service delivery to these areas becomes possible in a cost-effective manner.

This new environment will also present challenges. It is significant that the global economy now means that threats to business can come from any part of the world.

National Strategies

Australia

Growth in the use of the Internet and home computers in Australia is rising steadily. Over half of all Australian households (54% or 3.8 million households) had a home computer and one third (2.3 million households) had home Internet access by May 2000.

This compares to May 1999 where 47% of Australian households (3.2 million) had access to a home computer while 22% (1.5 million) had home Internet access.

An estimated 6.4 million adults (46% of Australia's adult population) accessed the Internet in the 12 months to May 2000 compared with 5.5 million adults (40%) in the 12 months to May 1999.

Take-up of e-commerce is slow when compared with the United States and Europe. Only 6% of Australian adults (802,000) used the Internet to purchase or order goods or services for their own private use in the twelve months to May 2000. Books or magazines, computer software and music remain the most common goods or services purchased for private use.

In Australia, the Online Council of Ministers is considering a number of strategies to position Australia in the global information economy and society. These include strategies for a co-ordinated and seamless approach to local, State and federal government electronic service delivery, legal and regulatory issues, engendering confidence in the use of government online services, privacy and security issues, a national approach to public key technology, intellectual property, strategies to overcome IT & T skills shortages, IT & T industry development, regional e-commerce issues, use of datacasting for government service delivery and affordable telecommunications services to rural and regional Australia.

Singapore

Singapore, through the Infocomm Development Authority of Singapore (IDA), is spearheading a drive to be a vital global information centre. The IDA's role is in catalysing Singapore's transformation into a knowledge-based digital economy to realise the benefits of the digital future. The Singaporean strategy is an example of government leading by example combined with free market development.

Singapore was quick to realise that people's openness to and skills with information and its related technologies could offer a distinctive competitive edge to the country. The IT2000 Masterplan has been largely implemented. It provided the blueprint for the use of information technology in nearly every government department. It also enabled a broadband infrastructure of high-capacity networks and switches throughout the 'intelligent island'. The ICT21 Masterplan now takes planning to the year 2010.

Government services either planned or operating include:

- Internet-based government procurement, including a one-stop, round-the-clock centre for the government's business dealings;
- Integrating the financial systems of ministries and agencies and the procurement applications;

- Housing rent and mortgage payments online;
- Global change of address and electronic application forms for the telephone, utilities, television licence and parking; and
- A single, comprehensive government web portal to proliferate the use of technology and create a technology-savvy community.

All agencies have to adopt a common infrastructure and common modules for form-filling, payment and security in order to achieve a single, consistent user interface. The user interface also equates to a citizen journeying through life. These cover business, defence, education, employment, family, health, housing, law and order and transport. Many link the functions of one agency with another, providing a seamless interface for the user.

European Union

The development and effective uptake of information and knowledge-based technologies is a **key issues for the European economy**. The European Commission, through an extensive and integrated policy, aims to foster the emergence of the information society in Europe. Its information industries have become one of biggest and fastest growing sectors in the EU. They are creating new jobs, new business opportunities, new products and services.

In addition to telecommunications deregulation and the development of an appropriate regulatory framework, e-commerce is one of the lynchpins of the Commission's strategy. E-commerce, consumer protection and data protection Directives complement work on issues such as the treatment of unsolicited commercial communications via e-mail and the determination of the moment when an online contract is concluded. Other key Directives concern:

- Copyrights and authors rights in the information society;
- The creation of an harmonised EU-wide framework for electronic signatures and electronic certification services; or
- A horizontal Directive which aims to remove the remaining obstacles to the free movement of electronic services, in particular regarding the establishment of service providers, the provision of commercial communications, the treatment of electronic contracts and the liability of intermediaries.

Other areas that the European Union is addressing in the global online environment include:

- Liability, especially in the area of intermediary service providers;
- The processing of personal information on the Internet;
- Intellectual property rights and copyright protection in the new environment, especially reproduction rights, the communication to the public right, distribution rights, and the legal protection of anti-copying and rights management systems;
- Taxation and tariffs on a product ordered and delivered through the Internet;
- Encryption;
- **Promoting the safer use of the Internet**, especially in combating illegal and harmful content on global networks whilst not having a disproportionate impact on Internet users and the industry as a whole; and
- Promoting and protecting consumer confidence and rights on the Internet.

The European Union is also fostering collaborative R&D projects, to bring together researchers to develop new technologies for the next generation of e-commerce products and services. There is a strong **emphasis on the take-up of R&D results.** This includes actions supporting the development and diffusion of new methods, techniques and the associated skills required.

Implications for Libraries

In a fast moving world, the question is 'do libraries need to reinvent themselves?'

Traditionally libraries were the gatekeepers to information, knowledge and learning. Their roles were described in terms of being the custodians and organisers of the cultural and intellectual record. Professional aims centered on safeguards of equality of access and managing and preserving the heritage in past and present records for the future. In the knowledge-based economy and society, libraries will have to integrate themselves into the multiple-delivery channeled networked society.

New partnerships may be introduced between content providers in the mobile commerce marketspace, database vendors, document delivery agents and publishers of electronic documents. By forming alliances and recognising that variety and choice is good, new content rich services, offering ubiquitous access can be developed to meet the needs of individuals, organisations and communities in the global information environment.

These activities will be necessary in order to meet the multi-faceted demands of the different types of user encountered within future organisations. Delivery will use multiple formats, including video streaming and sound bites to various locations including the motor vehicle, mobile desktop, and web television in the home. Libraries will add to the distribution channels, not replace them.

The 'book' of the future will not necessarily be in the mass-produced paper form that we know today. It will be downloaded via a machine that is a cross between a copier, a jukebox, a LCD machine and credit card reader. People will be able to select articles from professional journals, the Internet, chapters from books and other material, customised according to their need. The powers will not only be in the knowledge of what is in the final 'book', but also in knowing what is available, where and how to find it.

The value proposition will be in using multiple delivery channels to add value by personalising, localising, specialising and customising services. Library skills in organising and describing information also make the profession ideally suited to playing a major role in various metadata initiatives that are re-defining information storage and retrieval activities. The ability to weave information and knowledge into flexible and adaptable structures will be a further key to keeping the library and information service in a competitive position.

Librarians can also be key players in the learning society, that is, in supporting life-long learning. They can provide access to information and communications technology, provide advice and guidance. To be most efficient and effective they need to link with other institutions in the education field to build a network of learning centres and local strategic partnerships and plans.

They will have to develop new economic strategies, better understand user needs and demands, develop skills of staff and users and develop new services. The research priorities will lay in the field of integrated access to distributed and diverse resources, large repositories, preservation and access strategies. Strong political and advocacy skills will be required to assist libraries and information services meet these challenges and opportunities in the global information environment.

In order to retain their current customers, librarians and information and knowledge professionals will need to find the answers to the following propositions:

- How to engage with customers to maintain market position or loose it;
- How to develop trust relationships with customers;
- What is offered to customers that others do not - what is unique that keeps the customer in the service's market space and is not lost to others;
- Where is value added - in personalised, localised, specialised, or customised services; or
- What is needed to further enhance this.

Conclusion

The future for libraries and information centres lies in the following propositions:

Reality acknowledges that - when a person or organisation ceases to grow it starts to die.

The question is, what are the fresh inputs in terms of funding and ideas that will prevent starvation, withering and death?

Libraries and information services that create the future will do more than satisfy customers, they will constantly amaze them.

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Value and Performance in the IT society

Jo Bryson

Introduction

What compels an individual, library, organisation or government to value and measure the performance of their information, knowledge and supporting technologies? Is it driven by economic necessity, by the maxim that what gets measured gets managed, by curiosity or something else. The answer is all of the above and more. For in the global information environment, it is critical to be able to identify and manage different value propositions from a financial, political, corporate, social, cultural, personal and community values perspective in order to meet diverging and complex needs and to exploit the total worth of the information and knowledge age. A further component in ensuring that information, knowledge and supporting technologies are performing to their greatest potential is the ability to develop relevant and meaningful performance measures.

This paper explores the different value propositions from a financial, political, corporate, social, cultural, personal and community values perspective, and identifies various means of measuring the relevancy of these value propositions to the individual, organisation or government agency, and society in general.

It also provides a contextual analysis of the development of information, knowledge and supporting technologies since the 1970s when computing was mainstreamed into organisations and had its impact on decision-making, workflow and service delivery. A model of valuing information and intellectual capital on the balance sheet, that is appropriate to the new millennium and the rise of the knowledge organisation, is explored; together with an overview of the future state for libraries and information services.

Valuing information and its supporting technologies in the global environment

The global information environment is political, economic, social and cultural. It is both personal and corporate. Nicholas Negroponte talks of a world of bits or electronic impulses rather than tangible or physical reality of the past industrial age. These electronic impulses carry knowledge and information as the new source of wealth, power and self-esteem.

There is an emerged role of information and knowledge in economic and social activities, driven by globalisation, consumerism and technology. All organisations across the service, industrial and government sectors have become more information intensive and the home is being wired to receive multiple information channels to the fridge, television, microwave, mobile phone and car. Wireless Access Protocol (WAP) technologies are delivering information on the move, customised to meet individual needs, anyplace/ anywhere, any time/ 24x7.

Whether it is in a public library or information centre, a commercial entity, a research institution, university or a virtual information source such as a portal or vortal, the ability to measure the value and performance of information and its supporting technologies is critical to being able to substantiate success.

The word 'value' presents opportunities for measuring worth. For example, value can be:

- An estimate or appraise of being worth a specified sum or amount;
- A standard of valuation in an exchange;
- A measure of worth, importance or usefulness. The relative merit or status according to an estimated desirability or utility of a thing; or

- The quality of a thing, considered in respect of its ability to serve a specified purpose or cause or effect.

Multiple value propositions

There are different value propositions for information and its supporting technologies' products and services in the global information environment. These are financial, social, cultural, political and economic values, contributing either exclusively or with other values to success by individuals, private sector organisations, educational institutions, government agencies, not-for-profit entities and the general community.

Financial value

The financial value of information and its supporting technologies' products and services is centred on estimates or appraisals of their being worth a specified sum or amount. One method of determining a financial value is by measuring the value for money of knowledge and information and its delivery channels to individuals, the organisation or the community. That is, the extent to which the information assisted or made the difference in increasing financial strength. This can be measured by evaluating how the provision of the information assisted in a unique manner with delivering cost savings, managing financial risk, improving profits or creating new valuable assets.

A further mechanism for attributing financial value to individuals, the organisation or the community is to measure the impact of access to accurate, comprehensive, credible and current information on productivity and social cohesion associated with value chains in organisations or the community. The value chain is the chain of activities through which the organisation transforms its input resources such as raw data into products and services that it delivers to its customers. Each of the activities builds upon the value of the previous activities. An important component of quality service is to get the steps in the product or service delivery development process, the value chain, right first time every time. When this occurs, it increases the extent to which services can be improved and customer needs satisfied. This is because service quality costs go down as the organisation does not spend time repeatedly fixing problems or dealing with disgruntled customers. By correcting errors at the beginning of the value chain, the subsequent processes are more robust. In turn the services become more valued, the financial value is higher as costs are reduced, loyalty is greater, and value is added to the political environment as any source of negativity becomes more benign.

The value of information products and services is an important consideration as a standard of valuation in an exchange. In determining whether the potential for exchange exists through exchange systems analysis, two or more parties must possess something of perceived value that can be exchanged. Furthermore, an assessment of the value of the information product or service will be made in order to decide the level or amount of commodity given in exchange. This commodity may be time, another piece of information, money or goodwill.

In financial terms there is a growing discrepancy between the book value and the market value of organisations that is largely attributed to information and intellectual capital. Companies are seeking alternative ways to the traditional balance sheet to more accurately reflect their true worth. The intangible assets associated with the bits or electronic impulses that characterise the global information economy require different measurements to the tangible assets of the industrial economy.

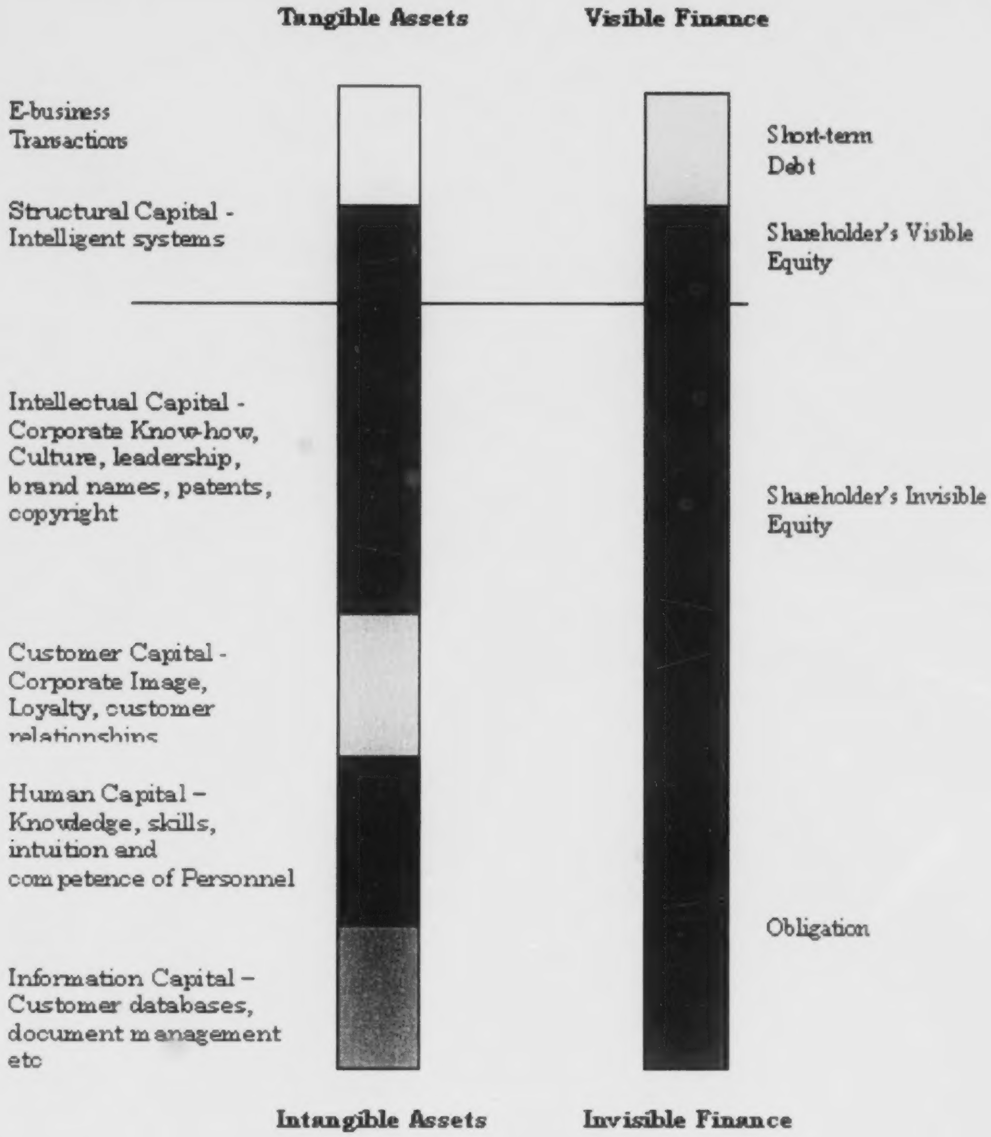
New ways are required to represent the true value of intellectual capital in the balance sheet. This is because traditional accounting systems still manage costs of material and labour as consumables. In the knowledge economy, knowledge is the primary raw material, but it is not necessarily consumed as it is used. The conventional balance sheet also assumes that the cost of acquiring an asset e.g. a laptop computer is indicative of its value or worth, after allowing for adjustments such as depreciation. Yet the value of intellectual property is in its use, not in its costs. As an example, the customer loyalty database in the airline reservation system may be included as an intangible asset on the balance sheet, yet this is one of the most critical assets used to measure the worth of the company.

Skyrme refers to an increasingly popular classification that divides intellectual assets into three:

- Human capital - that in the minds of individuals: knowledge, competencies, experience, know-how etc.;
- Structural capital - 'that which is left over after employees go home for the night': processes, information systems, databases etc.; and,
- Customer capital - customer relationships, brands, trademarks etc.

A fourth classification that may be added is information capital that measures availability, integrity, value and exploitation of the information asset within the organisation. Sveiby refers to this as professional know-how and organisational know-how. Professional know-how includes systems, rules, programs, manual, concepts that have been uniquely developed and are owned by the company. Organisational know-how is strategy making, marketing, planning that is measured by its ability to maintain and increase the value of the total organisation.

Sveiby (1994) has developed a model balance sheet of the Knowledge Organisation. In the model, intangible assets comprise the corporate know-how, the corporate image and the competence of the personnel. Unlike the tangible assets, they are both owned and not owned by the company. The shareholders' equity is represented as being visible and invisible, relating to their interest in both the tangible and intangible assets. A development of this model balance sheet is illustrated below.


Tangible Assets
Visible Finance
E-business Transactions
Structural Capital - Intelligent systems
Intellectual Capital - Corporate Know-how, Culture, leadership, brand names, patents, copyright
Customer Capital - Corporate Image, Loyalty, customer relationships
Human Capital – Knowledge, skills, intuition and competence of Personnel
Information Capital – Customer databases, document management etc
Short-term Debt
Shareholder's Visible Equity
Shareholder's Invisible Equity
Obligation
Intangible Assets
Invisible Finance

The Balance Sheet of the Knowledge Organisation in the Future – based on Sveiby (1994) The Balance Sheet of the Knowledge Organisation

In the balance sheet, cash and accounts receivable as a tangible asset is replaced by e-business transactions. Capital investment in office space and computers is replaced by capital investment in intelligent systems. Intellectual, customer, human and information capital figure prominently as assets, financed more through shareholders' equity, with less as long term loans.

Social value

The social value of information and its supporting technologies' products and services is often discussed but rarely quantified in an environment that has, in the past few years, been driven by economic rationalism. Information and communications technologies are key agents in the far-reaching changes that are affecting society. They are breaking the tyranny of distance within Australia and with the rest of the world; creating a global village in which access to new delivery channels of information, recreation and entertainment are having a profound effect on work, lifestyles, social intercourse and views of society. Information and knowledge are increasingly becoming available to everyone, the value being in enabling choice and in allowing individuals to make more informed decisions on all aspects of life, for example from health issues to career choice to investment.

New wealth and jobs have been created as part of the knowledge-based economy, and economic indicators can be used to measure the value of these new sources of income and employment. As a measure in valuing or assessing how effectively society has employed information and technology to meet its social and economic goals, macro economic benchmarks are often used.

Whilst these base indicators capture the level of opportunity of access, they do not take into account factors such as affordability, lack of individual skills or the poor local access regime that may mitigate against the use of the infrastructure. Neither do they take into account the fact that not all social messages are delivered in the virtual environment.

In terms of measuring the social value of information and its supporting technologies' products and services, the University of Adelaide has undertaken valuable work that assists in measuring such performance. Their measurement scale ranges from Highly Accessible to Very Remote and is an extremely useful tool in this area:

- Highly Accessible (no restrictions on accessibility of goods, services and opportunities for social interaction);
- Accessible (some restrictions on accessibility of some goods, services and opportunities for social interaction);
- Moderately accessible (significantly restricted accessibility of goods, services and opportunities for social interaction);
- Remote (very restricted accessibility of goods, services and opportunities for social interaction); and
- Very Remote (locationally disadvantaged - very little accessibility of goods, services and opportunities for social interaction).

Cultural value

The cultural value is very closely linked to the social value of information and its supporting technologies. This is because information and its supporting technologies assist with developing individual and collective minds and manners, and contribute to the intellectual and artistic development of different societies and groups. Cultural values also embrace issues such as sovereignty, cross cultural heritage and understanding of others' rights. Included in these aspects are the rights to determine ownership, presentation and management of information and knowledge. They are less of an indicator of financial worth, although financial worth can arise out of the cultural value of information. An example of this is in the value of Aboriginal Art, where stories and cultural symbols are depicted, and, the level of cultural significance and sharing of restricted knowledge can often influence the financial value of the art piece.

Culture as defined by distinctive customs, achievements, outlooks and ways of life is represented and passed on through oral tradition, pictures, paintings, as well as literature works. It is also contained in records management and archives. It is here that cultural values that relate to measures of worth, importance or usefulness surface in the debate about the preservation of the public record and government activities in the electronic record environment, particularly with regards to electronic transactions and the use of the World Wide Web.

The dilemma is between the cultural value, economic and practical feasibility of maintaining all copies of electronic records generated in government agency activities as a true record of decision-making on achievements and ways of life, and the cultural value in keeping a snapshot of activities at regular intervals to form a record of the developments in national character, outlook and ways of doing things. The former is driven by needs associated with probity and accountability of decision-making within society, whilst the latter is driven by needs associated with maintaining a historical record or snapshot of society and cultural life at a given point in time.

The outcomes of each and the manner in which the public record is managed differ substantially. There is continued debate on this issue and both outcomes are desirable. However, it is only by understanding which of the two cultural value propositions have the most value to their stakeholders can institutions make informed decisions about how and what they will manage. For a single entity to try to do both is potentially uneconomic and impractical in respect of its ability to serve a specified purpose, cause or effect.

In the case of national libraries and public libraries their cultural value is most easily identified in being both a repository of information about ways of doing things and as a developer of mind and manners. Their contribution to society in general and to specific local communities can be measured by assessing their effectiveness and efficiencies in:

- Documenting and making available details of heritage;
- Creating a sense of belonging by being a gathering place of reference for the sharing of common interests, skills and knowledge;
- Acting as a catalyst and provider of lifelong education and training;
- Upholding the artistic and intellectual side of civilisation; and,
- Creating an environment in which there can be further development of minds.

Political value

The political value of information is found in its worth, importance and usefulness in communicating and supporting particular ideas, principles and commitments. It is used by individuals, political parties and other entities to advocate a specific viewpoint, often relating to a contentious issue. Used effectively, the political value of information can be very powerful and can achieve considerable success. Unfortunately its value is often diminished through misuse, with individuals utilising it for personal gain to achieve an outcome that can have a negative or detrimental impact on others.

Organisationally, the political value of information can be measured by the extent to which it relates to or affects the interests of status or authority within the organisation, or affects the interests and status of the organisation itself in its external environment, for example amongst its competitors. The political value of information can also be measured by the extent to which information in a message is:

- Used or manipulated to obtain an outcome;
- Sells a particular point of view; or,
- Puts forward a viewpoint conforming to a body of opinion on a social or corporate matter.

Economic value

Information utilities and information providers add value to and create new information products and services by manipulating, merging and redistributing information to meet existing and prospective customer needs. For example, the emerging Wireless Access Protocol (WAP) technology is as importantly a spatial data product as a mobile telecommunications product.

Measuring the value of information as a commodity or economic good is complex. For example, an information product or service has different values to different people in different situations and at different times. Unlike tangible items, information has unique economic properties that can affect its value at any one time. It can be stored and used at any one time, it can be re-used without diminishing in value, or in the case of competitive information, its value can lie in none having access to it.

The value of the information service or product must ultimately be judged in terms of the beneficial effects accruing from its use as viewed by those who sustain the costs. Burk and Horton (1988) rank or rate the information resource according to its:

- Effectiveness in supporting the activity it was designed to support;
- Strategic importance of the information resource (or service) to the activities of the parent organisation (stakeholder);
- Strategic importance of the activities being supported to the parent organisation (stakeholder).

Corporate value

The corporate value of information, knowledge and its supporting technologies is applicable to most organisations, although the measurements used will differ between profit and not-for-profit entities. Its value is found in the comparative usefulness and relative merit of information in assisting the organisation increase or maintain its efficiency, profitability and competitiveness. This must be used in conjunction with other things that the organisation uses such as intellectual property (brand names, trade marks, patents and copyright), marketing profile and customer relationships.

Corporately, the value of information services and products can be measured by the extent to which they bring to attention and supply quality, timely and relevant information that enables the organisation to:

- Meet corporate goals and objectives;
- Undertake informed strategic planning and policy making activities;
- Meet its legislative and regulatory obligations;
- Protect its interests and the rights of its employees and other stakeholders;
- Make consistent and rapid decisions;
- Effectively and efficiently utilise its resources;
- Provide evidence of business transactions and activities in the case of litigation; and
- Identify and manage risk; and evaluate and document quality, performance and achievements.

In the competitiveness portfolio, the value of information services and products can be measured by analysing the extent to which they make a difference to the organisation by converting inputs (financial, human, technical and information) to outputs (information services and products) that produce tangible outcomes. That is, the extent to which they:

- Provide reliable intelligence about new product and service developments in the competitive marketplace. For example, there is early warning of developments about competitors, technology, economic or legislative change that could adversely affect the business success of the organisation;
- Assist with decision-making to either deliver more effective and efficient services or maintain the competitive edge. By providing this early warning, surprises can be eliminated or their impact lessened;
- Add value to the quality and quantity of intellectual capital in the organisation. For example, they identify new markets or business opportunities, by making connections and identifying latent needs, by scanning trade publications or market analysts' reports;
- Assist in research and development of a new product or service. For example, in sourcing new suppliers or providing SDI and specific research services; and,
- Ensure that the customer continues their value association with the organisation. For example, the most important asset of a major airline is not their planes - it is their customer database that knows where a valued customer likes to sit on a plane, what food they like - and other things that keeps that customer flying with them, not their competitor.

Personal value

The personal value of information and its supporting technologies is closely linked to the ideas expressed under social and cultural values. It is found in the extent to which the information enables an individual to operate in a complex world. In the global society it is important to recognise that personal values can differ between cultures and that individual expectations and perceptions of quality and value can impact on service delivery. For example, in:

- Germany, the dominant element in any form of quality and value is associated with the acceptance of standards;
- Japan, it is measured through pursuit of perfection;
- France, it is associated with luxury;
- United States of America; it is deemed valuable if it works; and,
- Australia it is based on the value and quality of the relationship between the customer and the provider of the product or service.

Developments in value propositions in information, knowledge and supporting technologies.

Since the 1970's information, knowledge and their supporting technologies have been slowly revolutionising the manner in which we work, access information, communicate and relate to others. At each stage of development, achievements and outcomes have differed and the consequential measures of value and performance have adjusted accordingly.

The first wave

The information technology revolution began in libraries and information centres in the late 1970's and early 1980's with data management, focussing on back-office systems in mainframe environments. Computers were employed to manage tangible assets and undertake large-scale, repetitive tasks such as the issuing of books and related materials. They were used for number crunching, to detect and correct errors, to determine the best use of assets, and to speed up manual processes. The early adopters were the large university, public and state libraries.

In both the vendor and client environment, a stovepipe mentality prevailed with separate modules being developed for acquisition, cataloguing and circulation. Books and serials were treated differently, with separate modules being developed for serial acquisition. Data was delivered through printouts containing lists of exceptions and totals of figures. The jobs created were in data input and mainframe management. Business cases for based on, and outcomes were measured in terms of productivity and efficiencies. In automating manual processes, the computer enabled tasks to be undertaken faster and cheaper. There were also economies of scale. Other advantages were gained in enabling the better use of resources, through inventory planning and other systems; but the focus was internal. Value was created in terms of the productivity gains and planned efficiencies that information technology brought to the organisation.

The second wave

By the mid 1980's and early 1990's a second wave was created that had an impact on library and information service delivery and its relative place, both physically and organisationally. A key contributor to the second wave was the realisation that information and its supporting technologies were, themselves, valuable assets and had a part to play in keeping and maintaining customer relationships.

Systems were designed to collect information about the customer as well as to deliver services. Information was collected about what the consumer bought, their preferences and spending patterns. New markets were created based around information products and services. The focus shifted to the front office environment and the management of information. The technology environment was characterised by shared networks of PCs where people at the front counter were able to access information and be in charge of decision making. The second wave also included the rise of groupware and executive information systems through which information was shared for better management decisions: but still everyone was presented with the same view.

For libraries and information services, the second wave meant that customised services were delivered direct to the individual on the desktop. The need for the library to occupy a prominent space in the building diminished when services could be delivered to each customer. With the assistance of network technology and databases, the customer not only had information at their fingertips, they were also in a position of searching for and discovering information themselves. Dial up, external access was also a feasible option in extending services to remote customers.

Value was created in terms of customer service delivery and enabling better decision-making, as well as in the creation of new products and services having an economic value.

The third wave

The third wave, or knowledge management era, began in the mid 1990's. In the third wave, all knowledge sets, human and virtual are integrated and information is tailored to meet the end user's needs. Interactive multimedia, video and other advanced technologies capture and disseminate knowledge through intelligent systems, Internet and Intranets. The knowledge of individuals plays a key role, and the organisation is actively and conscientiously acquiring new knowledge and retiring the old.

All knowledge transmission agents, including libraries, records management and archives are integrated. Information delivery is integrated with teaching and knowledge sharing devices. The phone, e-mails, Internet, the Web and Intranets are employed in an integrated manner. There are common systems for document management, electronic messaging, groupware, intelligent agents, and data mining. Key elements such as directories are not duplicated across systems, but are integrated.

The focus is external: in better understanding the external environment and the driving forces of the future; in strategies and managing intangible assets to competitively distinguish the organisation from others; and, in creating added value through collaborative knowledge sharing with suppliers, strategic partners and customers.

Organisations in the third wave, measure performance by evaluating flexibility and the extent to which intellectual assets, internal and external systems and processes can quickly and effectively share and transport knowledge in a manner that leverages its value.

Their capital value is not in tangible assets such as buildings, but in intellectual assets that comprise information systems, laboratories, competitive and market intelligence, knowledge of market channels and management focus, which all help to turn individuals' know-how into the property of the group.

The fourth wave

The new wave is mobile. Its impact is already seen in Asia and emerging in Australia. It is set to bring yet another major, incremental change to economic and social activities, to the delivery of services and business transactions. Mobile commerce platforms and WAP phones enable the delivery of tailored information on the go. For example, the nearest Thai restaurants to the street corner where you are standing when visiting New York, and details of their menus so that a choice can be made; or the latest in stock exchange movements in Australia within the portfolio of your choice.

The future

In turning to the future, three questions can be asked:

- What are the likely future impacts?

- What value propositions are appropriate for the future?
- What part will libraries and information services play?

Future impacts

Technological change and its effects on how we access, use and value information in society and organisations has considerable impact for libraries and information services. The Web, desktop videoconferencing systems and other products have created the opportunity for individuals to have access to experts and expertise at their fingertips. The traditional role of managers as the gatekeepers of information has gone. However, there is a fine line between being in a desert of knowledge and being awash with information. Too much, or information overload is equally as non-productive as having no or little information upon which to make decisions. The focus for libraries and information centres needs to be on creating and managing its value as well as in presenting it in the view of the individual and their needs.

Information will be downloaded to machines maybe at the airport, train station, corner shop, library or foyer of a large office block. It may also be downloaded to a palm pilot device mid air through a satellite phone, or into the car through a device attached to the fuel bowser.

A considerable amount of energy will be needed towards capturing, developing and transferring knowledge and understanding of customer's needs, preferences and businesses. This is the knowledge that is most likely to pay off economically, as it is serving more than 211 countries.

Having the physical tools and access to customer knowledge to undertake research is only part of the equation. There is also the need to have the skills and personal expertise to manage and use the knowledge to the best advantage. In managing the smarts, there is the need to distinguish between what is noise and what is true knowledge and intellectual property that can be leveraged to become a higher-value asset. True knowledge and intellectual property has a purpose and a use for the organisation - its value is in that it fits the culture, the core business and its corporate strategy.

Future value propositions

There are close parallels between value and use. The future in valuing and managing performance in the global information environment is in understanding the contribution of information and its supporting technologies to the individual, organisation or community.

Values propositions such as convenience and trust in the delivery of timely and quality services can assist in differentiating library and information services from other channels. This involves the creation of a relationship with a customer through the provision of consistently higher services or products than those of competitors, and, targeted services that meet stakeholder requirements in a manner not provided by others.

Generally people are looking for a service or products that:

- Are customer focused;
- Are timely in delivery;
- Meet a need in a manner that others cannot in the marketplace. The need might be based on specialised knowledge, mode of delivery, trusted source;
- Are convenient to access, physically and technologically;
- Are easy to understand and use; and,
- Cannot be delivered cheaper elsewhere;

Are delivered by courteous and knowledgeable staff, or trusted, secure and reliable infrastructure.

What part will libraries and information services play?

In the global information environment, libraries and information services add to the distribution channels, they do not replace them. The future will be presented as an environment in which individuals will have many different ways of accessing information. Libraries will be one of these channels.

To remain competitive in this multi-dimension knowledge marketspace, libraries and information centres will need to develop more efficient and effective mechanisms for:

- Identifying important sources of information that will make the critical difference; and,
- Making this knowledge available to their customers, creating an 'informed' and competitive organisation or society.

New roles can be created out of the library or information service's existing expertise in areas that are of concern and confusion to others. These include:

- Designing user friendly search capabilities and presentation formats for intranet search engines, emerging WAP applications or e-commerce databases;
- Managing metadata initiatives that assist in the discovery and retrieval of relevant information;
- Managing the growing complexities of property and moral rights in a multimedia environment; as well as,
- Sifting through and monitoring delivery channels such as external search engines and good Web sites for specific types of information needs.

The value proposition will be in using multiple delivery channels to add value by personalising, localising, specialising and customising services. For example, the University of Berlin Central Library is using WAP technology to notify students via their mobile phone when their books become overdue or available after reservation. By forming alliances and recognising that variety and choice is good, new content rich services, offering ubiquitous access can be developed to meet the needs of individuals, organisations and communities in the global information environment.

In conclusion, the future is ripe with opportunity and challenge. In life there are two choices. Either we can create the future, or the future creates (or destroys) us. The creative future will be in selling new services, forming new alliances and recreating new value propositions in a complex, changing, demanding and interactive world of multiple delivery channels.

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Reading Minds: adding value to services at the State Library of New South Wales

Kerrie Burgess & Therese Lake

Segment argument

The focus of PMs should demonstrate library value and relevance and be the basis for comparison with competitors in other industries.

Our approach

Performance measurement and benchmarking are two activities that are part of a broader review of services that the State Library of NSW has embarked upon. This review is based on two key components: the Library's Research and Evaluation Program and Quality Initiatives Program. The review is, in part, a reflection of the unprecedented changes in the information environment, as well as increasing client expectations and the growth in remote client use. These changes require a responsiveness that questions definitions of the Library's value and relevance within the current and future information environment.

In our presentation today we would like to discuss some of the ideas and issues that have been raised in our review regarding concepts such as value and relevance in a library context. In particular, our central premise is that while these concepts are two important measures, the critical issue is ascertaining how notions of value and relevance are defined and by whom. At the State Library of NSW we define these concepts from a client perspective. We consider it is imperative that we are aware of the range of perceptions and ideas associated with such concepts, including social and emotive connotations. As these perceptions, often unarticulated, have a major impact on clients' overall perceptions of the Library and the services we offer.

With regard to benchmarking, when considering competitors in other industries, our experience suggests that specific service attributes are a more appropriate basis for comparison than broader concepts such as value and relevance. In this presentation we will outline how we define, measure and benchmark these attributes.

Our presentation will commence with a discussion of the Library's Research and Evaluation Program and what it has revealed about clients' notions of value and relevance. We will then provide a brief overview of some of the services that have been developed in order to meet client expectations, before outlining our approach to benchmarking Library services.

Client research and evaluation

The overall aim of the Library's Research and Evaluation Program is to develop comprehensive information on Library clients - who they are, why and how they use the Library and what they think of current and possible future services. Projects conducted have employed a variety of methods to gather feedback from clients, including in-depth interviews, focus groups and questionnaires.

The projects have highlighted the diverse client base that uses the Library and why it is important to segment clients when considering performance measurement. At the State Library of NSW our clients range from the novice, first time user to the experienced researcher and scholar. And while caution must be exercised in categorising our clients too broadly, they can be segmented into three different, but not mutually exclusive categories: the reading room client, the recreational client and the remote client. This paper will focus on the reading room client.

The reading room client includes both Mitchell Library readers and State Reference Library (SRL) users. While these clients may view an exhibition, attend a Library event, or use our remote services, their primary reason for using the Library is to conduct research in either of the two reading rooms.

In conducting research with our reading room clients, we have discovered the complex, diverse and often contradictory meanings underpinning their notions of the Library's value and relevance. We will now highlight some of these perceptions, before turning to how we have attempted to address and measure them.

Mitchell Library

Our research suggests that amongst Australian libraries, the Mitchell Library accords 'very' valuable and relevant ratings. This is due to its origins, history and resources. For scholars, particularly in Australian and south - west pacific history, the Mitchell Library is recognised internationally as one of the most extensive sources of original material.

In gathering comprehensive information on Mitchell Library readers for the first time, we have been able to gain a more insightful understanding of who actually uses the Library. In particular, the Mitchell Library provides services to four major reader groups: professional researchers, personal interest readers, students and work/business readers. Each group represents a complex mix of perceptions regarding the value and relevance of the Mitchell Library.

The Mitchell Library's value, according to most professional researchers is defined by a certain culture steeped in the notion of the Library as a place of orderly, scholarly learning and research. Assumptions as to what constitutes a library, reader and valid (serious) research underpin this culture. Inextricably linked to these perceptions is the notion of the Mitchell Library as a constant within a world of change. This projection onto the Library as a steadfast institution representing an unchanging culture and values is, in part, a reflection of significant change in research and academic circles. In particular, many professional researchers feel that the value placed on scholarly research has declined in recent times. The Library, according to these readers is valued and relevant due to its role in providing and maintaining a place and for significant scholarly research. Change in the Mitchell Library is perceived to represent a decline in the value of professional researchers' work, as one reader has remarked:

> *"There's a concern amongst the historical profession - in these anti-intellectual times - concern that Mitchell Library will lose sight of what it is for".*

However, as the research has revealed, not all readers share the views held by professional researchers, personal interest readers are a case in point. Personal interest readers are usually amateur researchers who do not have extensive experience in using the Library (most have been using the Library for less than six years). The majority of these readers find themselves at the Mitchell Library, due to their interest in family history. In general, personal interest readers are highly motivated and very (narrowly) focused on their research. However, unlike professional researchers, these readers define value and relevance in fairly pragmatic terms; the delivery of enhanced services for their specific needs.

Work/business readers share personal interest readers' pragmatic focus. However, there are some additional requirements for this group: the delivery of timely services and increased access to electronic resources via the Library's website.

On the other hand, students represent a shift in research 'values'. The way research is conducted and the approach taken has changed. Many students have departed from traditional subjects such as history and moved to multidisclipinary fields such as cultural studies. Students studying such subjects approach their research from a different, 'postmodernist' framework. The recognition of subjectivity and critical-ficto writing is of more value and relevance to these students than 'traditional' notions of objectivity and academic prose. This shift affects the way students approach their material. In particular, and much to the chagrin of some of their lecturers, not as much emphasis is placed on the use and interpretation of original materials. As a result, students tend to draw from more than one source and therefore do not usually place as much value on the Mitchell Library as their primary place of research.

This brief sketch of reader groups reveals some of the challenges the Library needs to meet in order to deliver valued and relevant services to its different reader groups. However, understanding Mitchell Library readers' perceptions and the ensuing complexities provides an understanding of only half of the picture. As we will now explain, SRL clients hold different ideas regarding the Library's value and relevance.

State Reference Library clients

Apart from students, it is difficult to segment the State Reference Library client. However, while SRL clients avoid neat definitions, they are, in most respects unified in their overall perceptions of the Library's value and relevance. Unlike many Mitchell Library readers, whose sole focus when discussing the State Library is the Mitchell Library, SRL clients tend to take a wider approach and apply their notions of value and relevance to the Library as a whole, rather than just the SRL.

When focusing specifically on the SRL, clients indicate they place the most value on 'efficient' service. Efficient service for SRL clients is defined as being able to use the computer catalogue and retrieve the appropriate items within a certain amount of time. For students, it means being able to photocopy as many references as possible within a set time!

While efficient services are important to SRL clients, they are just as concerned with broader issues associated with the Library's value and relevance. In particular, these clients place significant value on the Library 'experience'. This 'experience' can mean many different things to different clients however, usual definitions are associated with a sense of 'quietness', the pleasure of research and the feeling that they are working within a valued 'community' institution.

Similar to Mitchell Library readers, SRL clients are concerned about change within the Library, albeit from a slightly different perspective. Change for SRL clients is defined by technology and the feeling that new electronic and virtual technology will lead to a loss of control in accessing and organising information. In brief, if we take away the 'physicality' of the Library, in particular, the feeling of touching a book, how does the Library experience remain valued and relevant? As some SRL clients have remarked:

> *"The future is the net increasing, but you cannot replicate the feeling of touching".*
>
> *"I need authenticity, this is lost in the virtual world".*

Future concerns aside, SRL clients also need recognition that a place that they 'value' is valued and relevant to the community at large. For while SRL clients are anxious about change within the Library, at the same time, they believe the Library needs to promote and accommodate change in the way that ensures it is seen as a contemporary and relevant institution amongst other cultural institutions and society in general.

As the above research findings highlight, in one reading room alone, the concepts of value and relevance can mean many different things. More importantly, it is not the differences so much that matter, but the tensions that arise in trying to accommodate the various meanings. We will now discuss how we have attempted to incorporate clients' perceptions and expectations within the delivery of reading room services.

Reading room services - the context

A recent article described libraries as offering a "venue that appeals and nurtures every idiosyncrasy" and that staff within these libraries "are apostles of culture"[1]. This statement is particularly appealing, considering the diversity of the State Library's clients and their requests. But what does it tell us about our value and relevance? How can we measure the way we "nurture every idiosyncrasy" or compare it against the offerings of our competitors?

In the past, the strength of a library such as the State Library was based on its Collections and staff who knew what was in our Collections. Much more is expected of us now. We are still important as a physical entity - a place to visit and see exhibitions or to use the Library's unique collections. However, increasingly the shift is away from collections to services that facilitate access and the delivery of information in whatever form directly to the client, wherever they are. Technology has enabled services to develop in ways that increase client expectations by offering improved choice and convenience. Such changes require a responsiveness that challenges traditional models of reference and research. Our services need to reflect these changes.

This part of our paper focuses on service initiatives, that are a direct result of the client research and the quality initiatives project.

The State Library of New South Wales offers information services from two Reading Rooms: the Mitchell Library which holds the Australiana Research Collection and the State Reference Library which offers both general reference and specialist services such as the Legal Information Access Centre and the Health Information Service. Both Reading Rooms combine to offer information services to remote clients. Recently these two Reading Rooms came under one management structure providing a framework for two different libraries to deliver services in a similar way.

This single organisational unit is a result of staff from both Reading Rooms participating in a Quality Initiatives Project aimed specifically at providing more relevant and effective services to clients. This was achieved by reviewing internal processes and work priorities, analysing gaps in our performance and then developing better practices and performance in our delivery of services. This information coupled with the insights offered by our Research and Evaluation Program has helped us to identify what we have yet to accomplish and how we hope to get there.

As outlined, client research offers us insights into how our clients view what we do. It also helps us understand how our clients seek information, rather than how we think they seek information. This process has prompted us to question our service delivery mechanisms. The traditional ways of providing reference services that have stood us in good stead over the years are now sometimes inefficient and frustrating for both clients and library staff.

Redefining service

Until recently, the Library followed a traditional onsite reference model; one that was anchored at physical service points. Clients queued for both complex and simple directional inquiries at the same point. Such a service symbolised the values of equity and ease of access but it was a one size fits all model.

Another disadvantage was that continuing a consultation process at the desk with the client was very difficult particularly if there were other people queuing behind. Continuity with the same staff member was also difficult because of rostering patterns.

In addition, we recognised that staff were frustrated with this one size model. There were different ways of staffing services and different cultures in the two Reading Rooms - one reading room had a team based service approach, the other was individualised with staff working independently and with very fixed professional and paraprofessional roles. Many of these staff had worked for many years in the same area and had built up strong knowledge of the collections. Regular clients quickly "sussed out" who to approach for ongoing personal assistance, and would wait until their shift. The paradox in this service was that there was a perception of personal service but in reality staff and client were both following a well worn path of compatibility that continued existing beliefs and values.

Our redefinition of services is best described as an iterative, rather than linear process. This approach became apparent to us in planning the "new model" process, which involved many discussions with staff and with our clients, developing their ideas, talking to other libraries, analysing research results and, most importantly, understanding the service from a client perspective though focus group "conversations" with our clients.

These conversations told us that our clients

- wanted improved convenience and access to our services and collections
- wanted to become more effective and self sufficient in using our services
- expected added value in relation to services - value in saving time or evaluative guidance in using our electronic products or customised services

The results of these deliberations was the development of a new service model - what we called a 3Tier service model, which defines the levels of service that clients can expect from us and the skills and knowledge staff need to provide within these levels of service.

The 3Tier Service Model

The Model provides a framework for service delivery in which we offer a variety of service configurations and differentiated levels of service that meet the broad range of needs and are supported by skilled staff and a more effective use of resources.

Broadly, the 3Tiers comprise:

- 1st Tier - aims to simplifying the process of getting started, providing tools such as guides that allow independent access, and services clients can access for themselves.

- 2nd Tier - offers assistance in getting our clients started on beginning level research through offering client education programs, conducting straightforward research on their behalf, or providing professional advice on using the collections of the State Library.
- 3rd Tier - includes offering formalised referral to specialist sections or subject experts or curators and tailoring and customising services to readers' needs. This tier is particularly relevant to people who are undertaking long term research in the State Library or who have complex research needs, such as the professional researcher.

Reshaping services is not just about changing the way we do things. It must change the outcome for clients. The 3tier model of service only works if it is in a context of value for clients.

For example, what might constitute value for professional researchers? Elements in all 3 tiers can add value. For many, the Library is their workplace so physical spaces, low noise and facilities (space to write, power for their laptops) are very important to this group. This group is usually narrow in their research focus and are often unaware of new services or products, so we provide them with targeted information through a fortnightly newsletter prominently displayed close to where they work. At the other end of the Tier spectrum, offering a consultation with a collection specialist provides a structured arrangement and a guarantee of service to both the researcher and the specialist.

A tiered framework helps us to plan delivery of services to particular groups of clients (e.g. business people, historians, students) in a structured way. Family History clients, like other researchers, use the Library primarily for the strength of resources. Staff understand the complexity of products and resources and can recommend the appropriate search strategy to suit particular needs.

Insight into family historians preferred mode of research, contributed to a slightly different 1st and 2nd tier "merging". This group relishes the common purpose they share with their colleagues. They love to know what their colleagues are doing and what they can learn from them. Many told us they discovered new resources or ways of doing things by talking to other researchers. Taking this into account, we are just about to trial a new service that will include a brief instruction session that will cover new family history resources, or "hands on" technology. Run by staff, the session will continue as a physical "chat room" that will tap into the sometimes club like and serendipitous way family historians work. This allows family historians to draw both on the skills of each other and staff. We are also investigating the possible development of a virtual chat room for family historians.

Other value outcomes relate to reducing complexity and increasing client independence. We recognise the complexities faced by first time users when they visit the State Library. Many struggle to understand and make sense of what they are experiencing but are reluctant to approach the Information Desks to ask for help. They are concerned about sounding like idiots, or wasting the staff's time so try to figure it out for themselves.

A major element of the 1st Tier is the promotion of client independence and self sufficiency. Accordingly, our 1st Tier incorporates a range of products and services from roving staff to electronic and paper based finding aids such as FAQs, self guided tours, introductory tours and "virtual" tours. The value for these clients is in having the guesswork taken out of their introduction to the Library.

We find that a high proportion of questions are simple directional or repetitive questions. (Where are the lockers? Can I join this Library?) The first information source visitors approach are the foyer desks. For many years, senior Library staff worked on one desk and Volunteers on the other. This resulted in patchy service. We realised that it was critical that the responsibility at this desk be well defined and that only directional and general questions be answered. So we introduced a new group of staff known as Information Officers, whose prime purpose was to provide a "front of Library" service that introduced people to the Library and its' facilities. This in turn freed the professional staff to carry out more specialist work and the volunteers to do move in to other support activities

Staff adding value

Personal experience affects how clients perceive the service value of staff. The attitudes of staff, particularly if they value the client's time and deliver what they asked for, are integral to a client's positive experience in the Library.

What attributes ensure effective information professionals? Providing accurate, relevant information is a complex process that requires a blending of information finding skills, interpersonal skills and cognitive processes. An ability to conceptualise information is promoted by some to be the core competency (as opposed to the core skills) that librarians need.[2] This means posing the right questions and retrieving only relevant information for the client. It also indicates filtering and evaluating content and saving the client valuable time. Core skills are also important but these change over time. Computer skills are an example of this.

The increasing presence of technology does not eliminate the need for human intervention - rather, in some cases, it has heightened it. Staff are a critical component in helping the client access and navigate an often bewildering information environment. The Health Information Service, for example, has developed a tool to help clients assess the quality of health information on the 'Net. This is in the form of a checklist that covers authority, content, design and relevance. Health staff also utilise other skilled professionals who have specific subject skills (such as the Cancer Council) to assess health sites.

In the 3Tier Model it is not sufficient to focus solely on service outcomes. We need to strongly underpin this service model with adequate support, training, resources and tools. The new model is based on staff having a range of core skills and competencies. Position Descriptions now include elements such as "analytical skills, client focus, communication and interpersonal skills".

William Bridges has made an important point and one that is pivotal to us moving our services forward at the State Library. He draws a distinction between change that is situational (e.g. new team roles) and transitional change which is the psychological process we need to go through to come to terms with new situations. At the State Library, we need to balance traditional activities such as knowledge of information and library collections and meld these with new service initiatives and additional skills. The 3Tier Model requires an explicit client oriented approach to services - one in which we need to realign and reshape services and resources in response to the changing world of information and the changing needs of our clients.

Collecting the data

Client research and the development of new services highlights the difficulty in establishing consistent measures of the Library's value and relevance. Our experience suggests that quantifying these concepts in a meaningful way can be problematic. Rather, it is a matter of recognising these sometimes 'irrational' attitudes that very often relate to external issues, and the effect they have on clients' service perceptions at the Library.

This being the case, we have developed a Library wide measurement model that takes client satisfaction as its central measure. This model is consistent, yet also flexible enough to incorporate the diversity of Library services.

We define client satisfaction as a composite measure, underpinned by a product, service and if applicable, price factor. We also allow for the 'x' factor, the usually intangible, often 'irrational' element that affects a client's perception of satisfaction. This factor is a broader value judgment or perception that a client brings to the Library, for example a reader's perception that the Mitchell Library is valuable due to its collection. The following model (Figure one) outlines the standard relationship between the variables.

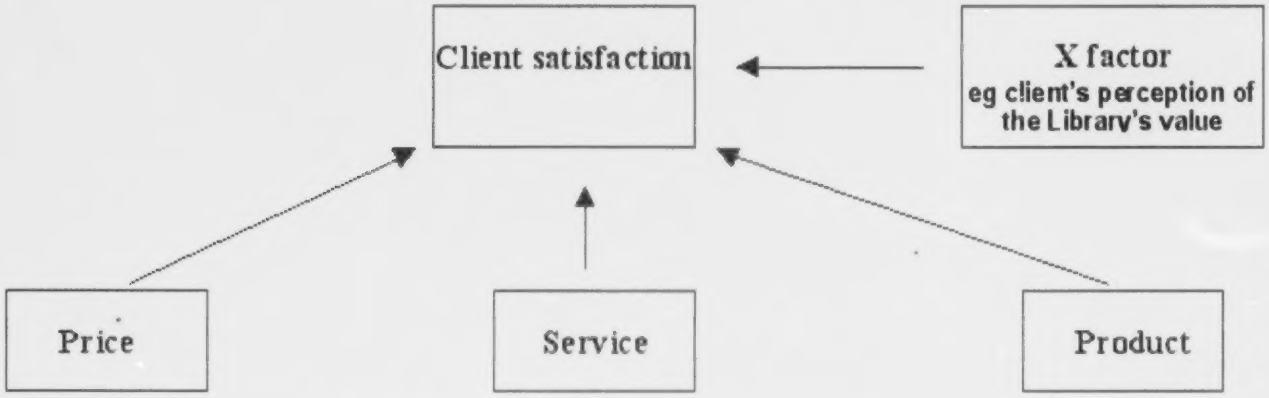

Figure one

Our research has shown that client satisfaction is a reliable predictor of client behaviour: if a client's satisfaction is high, they are most likely to come again and tell others about the service.

Our focus, when considering a product and/or service is the quality of that product or service. We consider that rating the quality is a far more critical and objective measure than asking a client questions such as 'Did you find the information you require?' While it is important to know such information, questions like this are not a reliable indicator of client satisfaction as they do to not take into consideration the various factors (such as the client's research skills) that can influence the end result. This is why, from a provider perspective it is best to focus measurement on the service we provide.

In some instances we ask clients to consider the overall quality of a service and/or product. However, in order to gain a more meaningful understanding of what a client values and finds relevant regarding a particular service, it is often essential to understand what, for a client, defines the service. The important point is that defining criteria differ from service to service. Without uncovering the attributes for individual services, we run the risk of measuring the wrong attribute, which in turn leads to incorrect conclusions as to a service's performance. A case in point is the measurement of service provided by reading room staff. In the Mitchell Library, the key attribute for readers is that staff provide a consistent service. However, in the SRL, the most important attribute is the friendliness of the staff. To have only measured one of these attributes across both reading rooms would have meant that we were not providing a valid indicator of quality service.

Most importantly, this performance model enables us to identify the priority areas; aspects of a service that have the highest impact on a client's satisfaction rating, yet rank the lowest levels in performance. Highlighting these areas ensures that we dedicate limited resources to the most appropriate areas. Table one highlights the priority areas for the Mitchell Library.

Quality service at the Mitchell Library					
Key service attributes and top ten factors					
Access to the library	Guidance & instructions	Staff	Requesting material	Library environment	Technology
	Instructions for computer		Notification material is ready to collect		Costing of copying
	Instructions for indexes		Notification of request's progress		
	Guides & brochures		Help with material unavailable		
	Signage		Waiting time		
			Number of items able to request		
			Stack slips		

Table one

Benchmarking

Our approach to performance definition and measurement means that it will be a while before the Library has comprehensive performance indicators for all of the Library's services. It also indicates that it will be sometime before we are ready to compare ourselves with competitors from other industries.

This is not to suggest that we are not 'benchmarking' our services. In fact we are benchmarking in ways we consider are more appropriate to our current context.

One major component to our internal benchmarking process is measuring a service before changes are introduced and then, once those changes have been implemented and given time to establish, re-measuring the key attributes. The focus of this measurement and benchmarking are specific attributes that define the service, for example, when measuring the performance of the Library's Picture Search Service, the key attributes included the information on the service, the request process and payment. Within these attributes, specific factors were measured, for example, the main criteria for payment was that invoices carried enough information for the client. Knowing which attributes to include and the specific factors defining those variables is uncovered by conducting qualitative research, in this case, in-depth interviews with a selection of clients.

This benchmark activity provides us with not only an objective indicator of the success of new service developments, but very specific information as to the performance of the various aspects of the service. The three tier service model is an example of where we have sought client feedback before the implementation of the service, and where we will ensure client perceptions of performance are measured, once the service is operational.

Another benchmark exercise we practice is comparing key quality measures across services. Comparison enables us to gauge what, from a client perspective, are the Library's quality services. This process also helps us identify 'best practice' services and highlights the attributes that make those services so exceptional.

We also identify best practice competitors by asking clients to tell us who they think provides the highest quality service or product within a particular area. At a later stage, we will be able to use the information in external benchmarking exercises.

At this point in time, we consider all of the above exercises to be of more benefit to us than comparing ourselves to external competitors from another industry. However, once we have established the services we need to provide to clients and have then developed an appropriate number and balanced set of benchmarks, we will consider external benchmarking as a way of ensuring that we reach and maintain the highest level of performance that can be possibly achieved.

Footnotes

1 Nunberg, G. (1998) "Will libraries survive?", *The American Prospect online*, Issue 41 November-December, http://www.prospect.org

2 Nichols, M., Sikes, J., Isselman, M., Ayers, M., Seelig, R. (1996) "Survival in transition or implementing information science core competencies", *Bulletin for the American Society for Information Science*, American Society for Information Science, Dec - Jan issue

3 Bridges, W. (1991) *Managing Transitions: Making the Most of Change*, Reading, Mass., Addison-Wesley Publishing Co.

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Proceedings

Best value: Libraries

Alan Bundy

This overview has four parts. The first reviews the only national think tank on library statistics[1], held in September 1990 - just ten years ago. The second examines the overall state of library statistics in Australia. The third considers how well library statistics have been used for demonstration of libraries as best value investments by society, educational institutions, governments and businesses. Finally, areas requiring attention if libraries are to reinforce their claims on better funding and support in the 21st century are specified.

The premise behind these explorations are that library statistics have two essential purposes

- for effective management and benchmarking
- for local, state and national advocacy for investment in libraries to enable them to make an even better contribution to society and the economy

It is also a premise that libraries can no longer concern themselves just with their industry statistics to sustain the case for better funding. They need to contextualise - to be aware of, and use, data relating to the information society, and where data is lacking initiate its collection.

The national think tank on library statistics

The origin of the only national think tank on library statistics ever held was the involvement of libraries in the work of the statistical advisory group created by the Council of Cultural Ministers to develop a statistical framework for the culture/leisure industry in Australia. Held before the 1990 Perth ALIA biennial conference, thirteen papers were presented. The introduction to the proceedings noted

> . . . there has been no shortage of activity and interest in the topic in Australian librarianship. Yet it is quite clear that there is no single database to which we can turn in Australia, which will report each indicator consistently for each library for sufficient years to sustain any analysis of trends. It may well be questioned why the absence of something should be used as the basis for creating it. Where is the demand? Who would use it? What purpose would it serve? What value would justify its cost?[2]

Ten years on, these points, and these questions, remain valid.

The pithy introduction, by Andy Exon and Kerry Smith, also observed that the economic climate meant that librarians were faced with the challenge of not simply reporting statistics, but of demonstrating their value to the organisation as a whole. It noted 'The fact that these organisations can have difficulty justifying themselves is no excuse for us to turn our backs on our own ability to do just that'.[3]

Very perceptively, Exon and Smith concluded

> All that is needed is an understanding of the importance of the problem, conviction of the justice of the case, and dedication to the faithful collection and distribution of the product.
>
> Once that has been achieved, we have sufficient expertise to move to the next level of activity - the development of an understanding of the relationship between the

> indicators of library activity and the performance of the organisations which support us.[4]

The papers ranged considerably in their focus. Some were more pointed than others. Geoff Allen in 'What's right or wrong with library statistics?' warned about the

> . . . danger of deluding ourselves, and therefore others, of the value of our statistics, and - the ABS is little better - I am sure Unesco is worse. But - we have no choice but to go on counting, because I see no alternative approach to getting some meaningful handle on library productivity, or enabling interlibrary comparisons which will inevitably continue to be demanded.[5]

In a short paper at the end of the published volume, Ian Douglas observed that

> The word 'statistics' is etymologically associated with the word 'statist', a person skilled in state affairs. Despite the enormous power of modern mathematical statistics to extract meaning from data, the basic point in collecting statistics is still to assist in the craft of running the state, or in our case, libraries.
>
> There are four aspects of collecting statistics that should be paramount
>
> - the data should bear on important problems facing the state (in our context the state of libraries)
> - the data should be useful in determining courses of action
> - the data should be reliably collectable
> - the data should be unambiguous
>
> If these criteria are applied to a collation of statistics from all libraries, then criteria 3 and 4 will restrict the scope of the statistics to a very basic set relating to loans, holdings, staffing and expenditure.[6]

This is a commonsense observation which still applies. If more than a basic set of statistics is required, they have to be collected and reported on a sectoral basis.

Australian library statistics at the end of the 20th Century

In March 2000 Averill Edwards, former ALIA president, completed a project for the Australian Library and Information Association to identify 'currently available statistics on libraries; librarians and library activities across all sectors'.[7] Also reviewed for comparison were the main statistical resources from Canada, New Zealand, UK and the USA. Nearly 50 sources of Australian data were identified. Nonetheless Edwards concluded that

> . . . in truth the library industry in Australia is poorly provided for in statistics. Basic statistics like the number of libraries and the number of librarians in Australia can only be estimated - more detailed operational statistics are available for some libraries in some sectors in some states for some periods -
>
> Libraries are a significant part of Australian cultural and intellectual life and yet so little information on the operations of the library industry is known. Good statistics are important not only to the good management of libraries but are important to those outside the sector - politicians, sponsors, the user community. Statistical information is necessary to formulate sound policy advice, to analyse and predict trends, to monitor performance, to market effectively and to seek funding successfully. There is no adequate long term picture of the industry which would assist in better management but also assist it to lobby more effectively.

Some of the key deficiencies identified in the report are

No central collection and/or repository of current statistics on library industry statistics which is easily and publicly available

- current collections are scattered by state or territory or by sector and now by format - print, electronic
- inefficient to have so many different collecting bodies
- current collections are difficult to compare as often only the current year or two years' statistics are provided
- not consistent as there are few standard definitions of specific operations across or within sectors eg reference inquiries
- difficult to compare as local requirements force different ranges of statistics to be collected within the one sector
- not current - most statistics are at least two years old or older
- few substantial statistical sequences covering ten years or more which can be used to indicate trends
- wide differences in categories of statistics collected within sectors and across sectors

No nationally agreed performance measures for libraries, although some attempts have been made to do so within sectors

- no ratings index by which to judge how well the library is operating
- an overall decline in collection of statistics
- decline in public availability of library statistics
- large research libraries are adopting accrual accounting and produce annual reports similar to company reports with detailed financial records but little operational data
- absorption of libraries within larger government departments with reporting forced to follow the departmental format
- no detailed central listing of libraries by sector, including school libraries
- lack of electronic statistics
- lack of inlibrary use statistics
- lack of employment statistics
- lack of school library statistics

Are existing statistics well used?

Edward's report shows that by international comparison, and despite its advantage of a relatively small population, Australia has not done particularly well. Certainly the UK, with the Library and Information Statistics Unit at Loughborough University, and the US with its National Center for Education Statistics *Library Statistics Cooperative program*, are both ahead of Australia. Canada, more comparable to Australia in population, has had a National Core Library Statistics program funded by its National Library since 1994.

Yet a fundamental issue remains that there is no value in clutching at statistical straws - expending resources collecting statistics - unless they are put to use. This is something which Australia, university libraries perhaps aside, has generally failed to do.

The Hennen Index

One public librarian in the US has shown that this is not just an Australian failing. In the process he has highlighted the correlated need for better library standards, with a strong quantitative as well as a qualitative basis.

Thomas Hennen Jnr, Director of the Waukeshe County Federated Library System in Wisconsin, has developed an index using six input and nine output measures focused on largely unused data collected for many years by the US Department of Education. In doing so he has created considerable library publicity and professional debate in the US. Hennen, who I had the pleasure of spending time with earlier this year in Chicago, believes that libraries have always lacked any commonly accepted indicators of what excellence is, something his index is designed to address.[8] Canadian applied research backs up Hennen. 'Knowing how we compare to the other libraries - whether we're providing the right level of service - is important to Council'.[9]

This Canadian research also observes that the target audience for public librarians - elected members and senior council administrators - are much more interested in the library's contribution to the local area than the broader social or national goals.

Hennen's initiative was inspired by US ratings of everything from cities to hospitals to universities. *Money magazine's* 1998 annual report on the 'Best places to live in America' uses *library books per capita* as one of its 89 indicators, but books have not been the sole measure of a library for many years. The outcome of Hennen's work has irritated a few, benefited the best and profited the worst. As he notes

> The media coverage has been very positive and very helpful to many of the well ranked libraries - Library representatives found uses for the poor scores, as well. Librarians lobbying for added state funding in the State of Georgia used their poor Haplr index rankings as part of their campaign strategy. Other local libraries have used the down side of their rankings to similar effect[10]

Hennen asked the question, can existing US public library statistics be used to more effect? It is a question we should ask in Australia before attempting a response to the myriad issues raised in Edwards' project report. In response to that question, using existing data an index of excellence is possible for university libraries, for public libraries, for state libraries and possibly for TAFE libraries. Special libraries are more problematic but within categories such as health libraries and law libraries maybe less so.

School libraries

Where it would be quite impossible to construct any index is school libraries, by far the most numerous type of library in Australia and arguably, with public libraries, the most important in determining the attitudes of future decision makers to library investment. This is a longstanding deficiency. Ten years ago it was noted that

> There is a pitifully poor supply of statistics available on school libraries. Jim Dwyer, former Superintendent of Studies, Education Department of South Australia, made a valiant attempt to better the situation by undertaking to call it school library statistics on a national basis for the years 1983, 1984 and 1985 -
>
> There is no co-ordinated collection of library statistics for private shools[11]

It appears, from Edward's survey, that only the Catholic system in Australia has good school library statistics. Given the importance of teacher librarians and school library resource centres to effective student learning, literacy and information literacy, this is a national disgrace. It suggests

- teacher librarians themselves are not being proactive individually and collectively about the issue, and benchmarking in particular
  or
- school systems and individual schools are too embarrassed to reveal the level of support of their libraries

or

- they do not see the contribution of teacher librarians and library resource centres as central to teaching and learning

  or

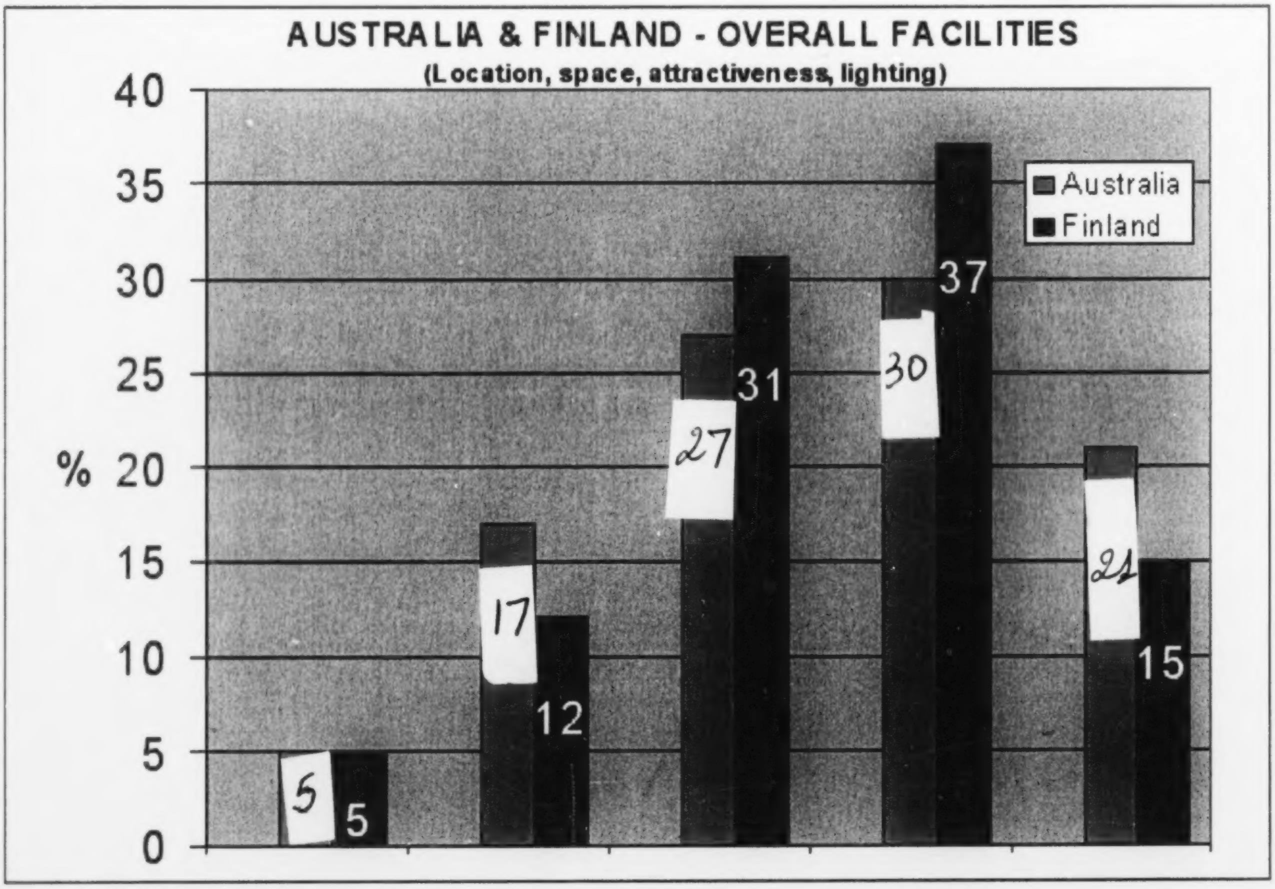
- they are not willing to be publicly accountable for expenditure of public funds, in both state and private schools

The need for national audits

Why should it be, for example, that it is fairly easy to identify what percentage of a university or municipality budget is invested in its library service, but quite impossible to do the same for the overwhelming majority of school libraries? There is clearly need of strong co-operation between ALIA and ASLA in pressing the issue as a national priority, and soon. An audit of school libraries would, at minimum, make them a national educational focus, where at present they are not.

Also primarily an issue for ALIA is making the best communication use of figures which might be gained from a 'beginning of the century' audit of the other national library sectors. No government or other agency is likely to initiate such audits, yet the outcomes would be invaluable for library profile raising. For example, I have recently carried out a very simple and inexpensive survey of public libraries in Australia which show the following results for overall facilities compared with a similar survey in Finland, a country with annual loans per capita of 22 compared with 9 in Australia, and which is regarded as a public library leader.

Australia/Finland



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The survey responses were from Australian public library managers and derive from a 35 per cent response. Yet they are statistically valid. To get the message through to the Australian community, we need simple data like this, and messages such as

> 'Public libraries - your 6c per day best investment'
> 'Public libraries - supported by 95% of Australians
> 'Public libraries - used by 60% of Australians
> 'Public libraries - local government's most appreciated service'

It is this type of message which - over a period of time - sticks in the individual and collective mind of individuals and decision makers.

Statistics can be used with imagination and to stimulate awareness. To date this has been largely overlooked in Australia. The Canadians have done it better.[12]

Going forward to basics - quantitative standards

Hennen has connected his index with the issue of standards. He contends that we need to reverse the trend in the last decade or so to loosely defined qualitative standards. This is in part because they have little value in the political bargaining arena. For 'America' in the following quotation 'Australia' could well be substituted, as could 'ALIA' for 'ALA'.

> A critical question to ask is who will define new standards? Until 1966, the American Library Association (ALA) took an active role in setting standards. Since then, ALA has concentrated on variations on planning and encouraging libraries to set their own standards. Individual state library agencies assisted by state library associations have taken on the job. Who should take the lead in setting new standards? ALA would be the most appropriate in this writer's opinion.
>
> *We need to go forward to basics*. We should have national minimum standards for all public libraries in America. We need national advisory standards that all libraries should strive for though only some will reach. Most of all we need benchmarks of excellence for exceptional libraries so that the rest can learn from the best. The Public Library Association should begin the process immediately.
>
> Setting locally needed standards, as in the current ALA *Planning for results* process is, of course, to be encouraged. Accounting has Generally Accepted Accounting Principles (GAAP). Public libraries need minimum standards that any American can expect in any library. Beyond that we need Generally Accepted Library Procedures (GALP?). Private businesses of all types are reaching for excellence using Benchmarking and Best Practices methodologies. It is time for public libraries to do the same.
>
> The profession should set minimum standards for libraries. Let us compete for excellence by exceeding minimums, then exceeding targets, and finally soaring to total quality library service. When libraries soar this high, let's go forward to basics, and award excellence.[14]

A recent UK publication on public libraries has made a similar point

> In the absence, for now, of an Office of Library Regulation, it is surely time the library profession set national benchmarks for the nature, extent and quality of services.

Qualitative standards

Libraries, because of the wonderful, complex, multifaceted physical and virtual places they are, do face a challenge greater than any other institution in society in measuring and conveying the full extent of what they do and contribute. This should be with the sense that the ambiguity of most types of libraries is *not* old fashioned and problematic, although it does affront simple minded, faddish, concepts such as core business and niche marketing. The core business of libraries is people and their intellectual needs. We should therefore see, and promote, such ambiguity as the stuff of a liberating 21st century.

Long standing library data collection, like loan statistics, has never been more than a limited relative indicator. It is noteworthy that Robert Cannon, Executive Director of the Charlotte and Meckleberg County Public Library in North Carolina is no longer publicising loan statistics at all. Inlibrary use of libraries - which is increasing - has never been measured well. Inlibrary and virtual use of electronic resources is now very problematic in terms of meaningful measurement. Not surprisingly, the introduction of the draft review to ISO/CD2789 *International library statistics* notes that 'As regards electronic resources and networks some measures are specified in this standard as targets to be aimed at where their actual compilation may not be generally feasible at this time'.[15] The draft standard itself has pages devoted to the complex issues of electronic data collection, one of which issues being that vendors, suppliers, IT centres and library consortium may be involved.

In contradistinction to the need for overt quantitative standards, more qualitative assessment of what libraries mean to individuals and different communities is also needed. The outcome of this qualitative assessment can be very effective if used proactively in the political debate - libraries have tended, like other agencies in society, to be compliant with the dominant proposition that if something cannot be readily counted it is not worthwhile. More qualitative research, of the type undertaken in the UK in 1998 as *New measures for the new library*[16] shows the way forward, slow though that way may be.

Using a social audit technique this research found very positive data about

- The social role of the public library
- The sense of ownership that communities express for their library service
- The educational role of the library
- The economic impact of the library
- Its impact on reading and literacy
- Its part in developing community identity and confidence
- Equity in service delivery

A new measurement strategy initiated by the Colorado State Library and being used already by 40 libraries throughout the US is outcome based evaluation - asking users about the outcome of their visit to the library.[17]

Best value

Data collection, regardless of all the statistics which library management systems can, and do generate, is an organisational cost. The reality is that most of the existing Australian library industry statistics, and statistics generated at the library level, are not used systematically for improved management or advocacy. If they are used at all, the use is opportunistic and ad hoc. That statement can be made without fear of verifiable contradiction because, ironically, there is little in the way of statistical or other evidence to confirm the uses to which library statistics are put, and what the outcomes of that usage are. Too little analytical rigor has been applied to what type of statistics are collected - subjective impressions of what might be useful one day have dominated, but without much reference to data bearing on important problems facing libraries.

Apart from the local drivers there are two predicable national organisational drivers which will impact on many Australian libraries in the early part of the next - the 21st - century. These drivers should improve the direction of Australian library industry data collection.

One of these drivers is Best Value, a UK concept which has already been taken up in Victoria.

In England, local authorities will be embarking on a program of 'Best value reviews' of all of their services. Once an authority has carried out a review, it will be inspected by the Audit Commission to judge the quality of the service and whether the service will improve as a result.[18]

A similar concept is that of quality assurance which in Australia will soon start to apply to the universities through the Quality Agency. Like the Best Value inspection, the essence of the work of this agency will be to verify that the reality matches the rhetoric of the universities.

'Best value' and 'quality assurance' processes are both something from which libraries can benefit because they tend to lead their institutions in both. The issue then becomes what statistics and performance and benefit measures are required to sustain their case for better recognition of their value and contribution.

In other words, statistical data collection for libraries has to be focused strongly towards an end benefit. ALIA will need to lead in the identification and collection of statistics but only those which relate directly to the attainment of its five objects which, let us remind ourselves constantly, are

1. To promote the free flow of information and ideas in the interest of all Australians and a thriving culture, economy and democracy
2. To promote and improve the services provided by all kinds of library and information agencies
3. To ensure the high standard of personnel engaged in information provision and foster their professional interests and aspirations
4. To represent the interests of members to governments, other organisations and the community
5. To encourage people to contribute to the improvement of library and information services through support and membership of the Association

Just as it is easy to spoil a written presentation with too many fonts, it is potentially all too easy to gather statistics which will not have any real use. If a philosophy is to underpin the type of statistics to be collected it should be 'if in doubt, don't'. The opposite has often applied, so the critical question with aggregated sectoral, state or national compilations which must be answered is, will the statistics really

- help libraries and the profession perform and demonstrate performance?
- be usable to advance the case for more, and better funded, libraries?

Identifying the core statistics to meet these requirements will not be easy but it is a challenge which can be deferred no longer. Ten years ago, at that national think tank, Barry McIntyre asked the question

> In the light of these problems that have resisted various attempts to provide remedies, it is worth contemplating should anything really be done about the statistics problem?

His response to his own question was

> It is time to resolve what really needs to be done and do it even if that means leaving things as they are! Let's put the statistics issue that has plagued every conference for the last ten years to rest.[19]

His plea clearly went unanswered. Here we are ten years later, still trying to find a way forward.

Conclusion

Earlier it was noted that statistics can be used with imagination, and to good political effect.

One ALIA action, hinted at by Barry McIntyre at the national think tank, should be the production of a regular Australian Library Facts Book.

Another ALIA action should be 2001 national think tank on library and contextual statistics, standards and audits, with a required outcome to either put the issues to rest, or more positively to carry them forward with targeted, cost effective, and sustainable recommendations. This should be in informed by, in particular, a joint ALIA/ASLA paper on school library statistics and standards.

The 21st century information society - as people, government and business become increasingly disenchanted with information overload or information deprivation - should be a golden age for libraries as both place and space. The more a country has equity of access to information that is relevant and focused to its socioeconomic and democratic development the more enduringly successful it will be - Finland is one example. Singapore is following hard on its heels.

Libraries and librarians are the experts in the management and free flow of information. The more of both a country has, the more chances it will have of getting its information better recognised and more accessible. That is the very simple proposition which needs to be developed as the new century develops. The identification and astute use of the right statistics and standards is critical to the success of that proposition.

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Proceedings

The Entrepreneurial Public Library: the Policy and Practice of Fee-based Services

Margaret Butterworth

In most developed countries of the world, public spending cuts are having an adverse effect on public libraries, resulting in decreases in staffing, opening hours and materials budgets. Present funding levels for public libraries are generally inadequate to finance expansion into the electronic sphere, which requires huge sums to be spent on technology. Furthermore, the public is becoming more demanding and expectations are growing about the type of service they require. This is at a time when access to information is vitally important at all levels of the global economy. People who need quality information are disappointed in public provision and are increasingly turning elsewhere, either to search for it themselves in the chaotic world of the Internet, or to private search and consultancy services who provide reliable and timely information at a fee. This phenomenon may be viewed as part of

> an apparently inexorable shift *away from public towards private provision* of goods and services throughout society... The effects are palpable in utilities such as gas and electricity (privatisation, liberalisation and so forth); they are evident too in higher education (it is increasingly self-funded, with students defined as 'customers' who must take responsibility for their 'investment' in degree programmes); and they are clear too in television where subscription and pay-per-view advance at the expense of public service broadcasting.

(Webster, 1999, p.1).

The library profession needs to find strategies to respond to this situation, yet the complexity of the issue prevents it from arriving at a common consensus. On the one hand, there is a clinging to one of librarianship's oldest and most precious beliefs - that access to information should be free, as a basic right of citizenship. Those who subscribe to this view may see lobbying politicians as the only way forward, whilst others in this camp may position themselves as being efficient managers of leaner and meaner organisations who will practise survival to the bitter end. On the other hand, there are examples of enterprise within the profession, where managers find innovative ways of supplementing their budget and are supported by clients who are happy to pay if they receive a better service.

Part One: Examples from the U.K., Ireland and New Zealand

This section examines examples of charging for public library services in three countries: the United Kingdom, the Republic of Ireland and New Zealand. The intention is to consider the circumstances in which charging was introduced, the public's response in terms of the effect on usage and an evaluation of whether the scheme is regarded as successful, as far as these aspects can be determined from the literature. The overall objective is to provide hard facts and statistics, which are largely lacking in the debate on user pays, in order that future decisions can be made without recourse to the emotional arguments of the past, which have been largely made on purely philosophical grounds.

In an attempt to find a context for these examples, statistics have been sought which might provide a norm as to the percentage of public library budgets which is raised through fees or other entrepreneurial activities. Information on this is patchy, however. American public libraries currently receive 93% of their operating funds from various levels of government. Only 3% comes from fees and charges, while some 4% is attributable to private donations and other sources, (Kinnucan, et al, 1998, p.187). By way of contrast, we might consider the case of Holland, where no free lending of printed materials is available. An annual membership fee was the main charge until 1987, when the Welfare Act made local authorities responsible for library funding. Charges were extended to fees per borrowed item. Most libraries are independent institutions which decide on their own method of financing, leading to great variation in charging. The Dutch accept charges, which are used both to generate income and to regulate demand, (Egholm and Jochumsen, 1997). Taking an Australian example, the 1997-98 financial report of the City of Stirling, in the Perth metropolitan area, shows that income raised is just over 4% of budget. It is likely that this figure might be higher, and more on a par with the British statistics provided below, but for the fact there is no income from fines.

United Kingdom

The normal loan of books has traditionally been regarded as a core service which should remain free of charge in the United Kingdom. Nevertheless, opportunities for charging fees have been found in the area of audiovisual materials and, more recently, for Internet access. Nowadays, no-one would enter a British public library with the expectation that borrowing a music CD or a videocassette would be free. In his most recent review of information technology in British public libraries, Batt comments:

> It is quite reasonable for the service manager to make a judgement that the only means of sustaining the service is to make a charge - we have done it for years with audio material and in some libraries with language courses.

(Batt, 1998, p. 37).

Fines for overdue books have also been regarded as an important part of a library's income generating activities.

In spite of the widespread acceptance of the imposition of charges for non-book materials, the sum total raised has never been large. The national norm is considered to be 6% of budget, with the London Borough of Sutton being acknowledged a leader in the field of revenue raising, generating 17% of its income in this way (Aalto and Knight, 1997, p. 8). To put this in context, the following chart illustrates Sutton's income generating activities compared to other library services in Greater London:

Income per 1000 population:

Sutton £2691

Bromley £1783

Barnet £1718

Richmond on Thames £1603

Redbridge £1442

Croydon £1248

Harrow £ 803

Kingston on Thames £ 788

Sutton: income breakdown:

Fines: £114000

Video hire £ 82000

CDs/Cassettes £ 82000

Book sales £ 30000

Photocopies £ 12000 (profit)

Merchandising £ 23000

Out-of-borough subs. £ 8000

Hire fees (games machines, children's rides,

exhibition areas) £ 26000

Bars & catering £ 25000

Events/Commission £ 12000

Rents £ 80000

Other £ 73000

Total £568000. (Aalto and Knight, 1997, p. 8).

With regard to Internet access, charging policies represent a significant debating point, with no real consensus as to what is reasonable or expedient to charge. No-one has made a study as to how charging influences the nature of use. Batt's survey of IT in public libraries reveals the following:

Diffusion of Internet Access

1995 1997

Library Authorities with access 53% 77%

Service points with access 142 (3%) 357 (9%)

Service points with public access 28 (0.7%) 215 (5%)

Number of workstations: staff 355 908

Number of workstations: public 39 321

(Batt, 1998, p. 16-17).

Of those with Internet access, the following charging policies are in effect:

Fee No. of libraries

Free 20

£1 per hr 2

£2 per hr 5

£3 per hr 12

£4 per hr 5

£5 per hr 30

£6 per hr 3

(Batt, 1998, p. 36).

The 'going rate' amongst those who charge seems to be £5 per hour, which is also the rate charged by Input/Output, a commercial firm which has installed Internet centres in 21 public libraries on a contracting-out basis. This scheme removes the need for capital investment on the part of library authorities and assures them of a regular income from a percentage of the takings. Batt estimates that free Internet access is most likely to be found in London and least likely in the English counties, and he calls for a consistent, equitable approach to the provision of these services across the land (Batt, 1988, p. 38).

One source of information about charges made in public libraries in England and Wales is an annual survey carried out by SINTO (Sheffield Interchange Organisation). Now into its 12th edition, (Robertson, 1999a), it was started by Pat Coleman, the then Director of Sheffield City Libraries, presumably as part of a gathering of management information for internal use. It is now sold at a cost of £25, and at this price 'covers its cost plus a little bit spare', (Robertson, 1999b). The publication contains only raw data, based upon an annual questionnaire, and surprisingly has received little attention in the LIS literature. There has been no attempt to analyse the data, or to draw conclusions about trends. As such, its use is fairly limited. We can see, for example, that fines range from around 5p to 10p per day, and that reservation charges are around 50p to £1. Of some interest is the last question about 'Other Charges', which might be used by someone looking for ideas for their own libraries, for services which might be fee-based. These include: display of commercial notices; bulk loan of Asian books, music scores and play sets; 20% commission on sale of publications and artworks; sale of redundant stock; local studies or family history research; hire of exhibition space; output from Community Information database or sale of complete database.

Republic of Ireland

A gloomy situation has been well-documented in the Irish Republic, where the library service was described as being 'on its knees' as a result of financial cutbacks. The introduction of registration fees came in a way that was too little or too late to alleviate the problem. These are the findings of a report, *Irish Public Library Service Statistical Analysis 1982-93,* which is summarised by Martin (1997). The situation arose with the coming to power of the Fianna Fail party in the 1977 general election. Their election promise was to abolish domestic rates, which were a vital source of local authority funding. A Rate Support Grant was intended to supplement the loss of income, but this was never sufficient and fell from £280 m. in 1984 to £172 m. in 1993. An Act of Parliament gave local authorities the discretion of levying charges for services, including library services. A few authorities had, in fact, made small charges for library registration prior to this, ranging from £0.12 to £5.00. By 1993, of the 31 local authorities, 22 had registration fees between £1 and £5, three charged per item issued, two charged £10 and four had no registration charge. At the same time as this was happening, the majority of libraries experienced cuts in their bookfunds. In 1984, the total national acquisitions fund was £3.26 m. In 1988, it was £2.285 m., a 30% decrease. There was, it seems, a gradual deterioration of service, a downward spiral at a time when the public were being asked to pay fees:

> Cuts in book funds prevented many book titles being purchased and led to a gradual deterioration in book stocks. This, combined with increased membership charges and reduced opening hours due to staff shortages, contributed to a gradual disillusionment with the public library among many members of the public.

(Martin, 1997, p.103).

In his analysis of the statistics in the report, Martin notes wide variations around the country. In particular Dublin City and County, which had free membership, managed to increase the number of library registration during the 12 year period, though it still lost some ground on issues:

1982 1993 Net plus/minus

Registrations

Dublin 291,963 402,946 +38.01%

Rest of Ireland 411,344 358,451 -12.86%

Book issues

Dublin 4,451,508 4,186,054 -5.97%

Rest of Ireland 10,370,815 8,609,225 -16.99%

Martin drew the following conclusions from the study:

- sharp increases in registration charges resulted in loss of membership;
- gradual increases in registration charges did not result in significant decreases in membership except where bookfunds suffered considerable cuts;
- library authorities that achieved a steady increase in bookfunds also increased issues and membership;
- free membership did not ensure an increase in registrations and issues, except where accompanied by an increase in bookfunds and overall quality of library service;
- a decrease in adult membership in many instances resulted in a corresponding decrease in children's memberships, even where no registration charges were imposed on children;
- where new libraries opened, complete with new bookstock and modern facilities, an immediate increase in membership and issues occurred.

(Martin, 1997, p.104).

Furthermore, without central government intervention, wide discrepancies in standards had arisen throughout Ireland. Over the 12 year period, the following ranges were recorded in the 31 library authorities:

Low High

% of population registered 5.03% 61%

Issues per head of population 0.46 8.12

Acquisitions budget per head £0.07 £2.82

Total expenditure per head £1.21 £17.47.

It is clear from this analysis that fees do not work, if they are used as a last-ditch measure in an attempt to solve severe financial problems. The public perceived they were being charged directly and charged more for a dwindling service, and voted with their feet accordingly. One regrettable result was the decrease in loans to children, even though no charges were imposed on them, since parents are instrumental in establishing a reading and borrowing habit in their offspring.

New Zealand

A unique feature of New Zealand public libraries has been the co-existence over a long period of a free and a rental collection. A distinction was made between fiction of literary merit and novels which had only light entertainment value. The two have existed side by side for many years, housed on different shelves in the library, and the New Zealand Library Association assisted by producing lists of new titles which classified them into the two categories. The history of this system originates in the transformation of the subscription libraries of the 1930's into the largely publicly funded libraries of the 1950's. When this transformation was occurring, it was felt that public funds would probably not be forthcoming in large enough quantities to maintain the large and popular light fiction collections and at the same time to build up serious literary collections of sufficient scope to be worthwhile. Furthermore, many librarians believed that the rental collection allowed both the satisfaction and control of popular demand (Griffith et al. 1997, pp. 184-186).

In the 1960's an analysis was carried out into borrowing habits and the relationship between the free and rental collections in Lower Hutt Public Library (O'Neill, 1969). As well as providing useful statistics, the author comments upon public library roles at the time, one of these being that of widening the scope and range of what borrowers read. This could only be done if people came into the library in the first place, and the rental collection was regarded as one of the major attractions. O'Neill wished to examine the 'instrumental value' of the rental collection and to measure the extent to which 'entertainment reading' contributes to serious reading. The figures he presented were these: non-fiction comprised 65% of the adult lending stock and accounted for 34% of adult issues; fiction comprised 18% of stock and 24.5% of issues; the rental collection comprised 17% of stock and 41.5% of issues. 21% of visits to the library were for rental books only, with another 13% of visits were for both rental and fiction titles. It was probable, concluded O'Neill, that if Lower Hutt Public Library had discontinued its rental collection, adult visits would have fallen by 30% (O'Neill, 1969, p. 205). Sadly, this article, which is replete with statistics of all kinds, provides no information about the income received from the rental service and its relation to the overall library budget.

Rental collections typically consisted of romances, detective stories and Westerns, but some librarians also made a distinction between books in high demand and books in low demand. Canterbury Public Library, for example, applied rental charges to high demand books, whilst at the same time placing other copies in the free collection (Griffith et al, 1997, p.185). This practice is being revived in the 1990's with the introduction of 'bestseller' collections in public libraries, with titles derived from bookseller's or newspaper lists. A recent example is Tauranga District Libraries, where a High Demand Collection was introduced in September 1998. The cost of borrowing from this collection is $1.50 for two weeks, including CDs and videos. Additionally, there is a 'Hot Favourites' selection with a higher price tag of $5.00 per week and this is limited to 100 items. At the same time, Tauranga Libraries are making more adult fiction free to borrow, up to 60% from a previous 40%. It is stated that:

> the problem of balancing the need for free information with the need to provide up-to-date resources is one which is unlikely to be solved... We must face the facts that a completely free service leads to stock which becomes shabby and out-of-date, whilst a service which entails a degree of user-pays will enable staff to maintain attractive up-to-date resources.

(Behind the scenes, 1998, pp. 1-2)

At Tauranga, it was decided to establish a separate business unit for the rental collection, so that statistics relating to its income and expenditure could be studied in isolation from total library revenues. If successful, it would be free to reinvest profits into expanding the rental service. In addition, sophisticated accounting practices were employed, including NPV (Net Present Value calculation), which is a way of comparing costs and revenues over a period, say ten years. The intention was to demonstrate that, as a pure investment, the project could offer rates of return that were greater than other low risk investments. The model of calculation on an item with a revenue earning life of 4.5 years and an average of 11 issues per year showed a yield marginally better than an 8% investment over the same period, (Peacocke and Nees, 2000). The authors conclude that they have been able to demonstrate to Council the financial viability of the rental collection and that this model of accounting could be applied to the establishment of other entrepreneurial services, such as a dvd collection or a CD-ROM games collection. Users appeared happy with the service, which showed a 15% growth over the past year, and the close monitoring of the system enabled waiting lists for books and time delays for reservations to be reduced dramatically. The scheme clearly shows the benefit of applying sound business principles to the administration of fee-based services, by separating these from the free service.

New Zealand public libraries in the main have not proceeded with annual subscription charges, with the exception of one authority, Wanganui, where a subscription-fee of $4 was introduced a few years ago. It does not meet all their needs for revenue, so it was still necessary to charge for many loans and other services. This was the result of a conscious decision to to raise some money from membership and some from user charges. It means that someone wishing to use the library twice a year is not put off by a high joining fee. The bulk of revenue comes from people using the library the most. One problem, though, is evasion of the subscription fee by attempting to use other people's cards. Wanganui defends its stance on charging by claiming that there is still free access to the library itself; it is simply those wishing to use the 'value-added' service of borrowing books who must become fee-paying members, (Calvert, 1999).

An academic study of Wellington Public Library's pricing policies was carried out in 1992/3 which provides an in-depth analysis of many of the practical issues surrounding the fee or free debate (Gray, 1993). In August 1992, Wellington implemented user charges for sound recording, video and art reproduction loans, and inter library loan requests. There was also a proposal to introduce a reservation charge, but this was dropped after a public outcry. A business plan was drawn up which included estimates of demand for services and a corresponding income target of $181,000. The costs and charges were as follows, in NZ dollars:

Item/service	Unit cost$	Proposed charge $	Actual charge $
Children's bk	$2.76	$0	$0
Adult bk	$3.63	$0	$0
Periodical	$3.97	$0	$0
LP	$1.60	$0.50	$0.50
Cassette tape	$2.26	$1.00	$1.00
CD	$2.89	$2.00	$2.00
Video	$3.97	$1.00	$3.00
Art repro	$7.31	$2.00	$5.00
ILL	$7.24	$3.00	$5.00
Reservation	$7.27	$1.00	$0

(Gray, 1993, p. 5).

Gray suggests that the major motivation was the large costs associated with the operating of a new central library building as well as a sympathy for the prevailing user-pays sentiment. Though the Council remained convinced of the importance of a 'social goal objective', in that loans of books and periodicals should remain free of charge, they applied a different pricing objective, that of partial cost-recovery, to other services, such as the provision of audiovisual items. There was also a third consideration, with regard to reservations and interlibrary loans. The staff felt there was a need, given the high unit cost of these services, to curtail demand, since many requests were not collected and thus represented an inefficient allocation of resources. 'Pricing was a way to encourage the users to value the services, and not to impose unnecessary costs on the Library' (Gray, 1993, p. 7).

Gray's study evaluated the pricing system six months after its introduction. She discovered that the

Library was expecting to achieve only 65% of the income target for the year. In the first two months, issues of audiovisual items dropped sharply and then evened out in the next four months. What is also interesting is that the new charges had an adverse effect on all library borrowing, with issues dropping by 3.1% in August and by 6% in September. These are winter months when the normal trend would be for issues to rise. The result was that for the six months July 1992 to February 1993 Wellington Public Library failed to meet its target of 250,000 issues per month across all service points (Gray, 1993, p. 35). Unfortunately there are no later figures published and the current Librarian has not been able to provide any to the author. Gray comments that the income targets and the issue rate targets are conflicting goals. The Library did not have a formal evaluative measure in place for determining the success of the pricing exercise, which would allow for a refinement of the original pricing decisions. Informally, Gray was told that 'issues were more important, but Council still needs the money, and the Library's budget is lean enough without having 'failed' income targets sliced from within it' (Gray, 1993, p.37). This case study indicates that it is perhaps more important to be seen to be making a contribution to revenue in financially difficult times and that the gesture is more important than the substance.

The impetus to impose charges increased in New Zealand with the 1996 Local Government Amendment Act No 3, which required local authorities to set out funding plans for all the services they provided. There was an expectation that a stated percentage of revenue should come from private, as opposed to public, funds. This percentage varied around the country, and was the subject of negotiation, but an 80% public and a 20% private division was not uncommon. Research was carried out by Calvert into the impact of these changes on public libraries. Of 60 responses (itself an 80% response rate), only 11 library authorities had had their budgets cut. The most common scenario was for a library to have its revenue maintained and at the same time to find methods of increasing income up to the declared percentage level. This led libraries to introduce CD collections or Internet access as fee-based services, simply to raise additional funds. It did not appear to matter that these services failed to recover costs: any contribution to revenue was regarded as a step in the right direction, given the current political climate. Setting up such a revenue stream through charging was regarded by both staff and users as being preferable to cutting services or making economies in the collections budget (Calvert, 1999b). This research indicates that charging fees has become a fact of life in New Zealand's public libraries and that librarians are looking in a pragmatic manner for survival mechanisms in a climate where public funding will never be adequate to meet all the demands of a quality service. Calvert takes a quotation from Samuel Johnson for the title of his paper:

> This mournful truth is ev'rywhere confess'd
>
> Slow rises worth by poverty depress'd.

Worth, or value, to the community, says Calvert, struggles to grow and prosper if the essential nutritional elements are lacking.

Lessons from the three examples

In the United Kingdom, there is a pragmatic acceptance, based on a tradition of charging for non-core services, such as audiovisual media, with a general consensus inside and outside the library profession that this is an acceptable road to take. This is in the light of a recognition that public libraries are utilised most by a middle class who can afford to pay for these services:

> Public libraries, as institutions of the capitalist state, are configured like many other agencies, in favour of the middle class, who consume public goods to a disproportionate extent. During 2000, the 150th anninversary of public libraries is being celebrated. These institutions were ostensibly established to meet the needs of the Victorian 'deserving poor' and yet, 150 years later, they are disproportionately used by the middle class,
>
> Pateman, 2000, p.82.

In countries where there is an urgent need to find more revenue to fund the public library service, because of large-scale financial cutbacks from the public purse, strategies for charging need to be carefully planned. It is far easier to charge for new and innovative services which appear to satisfy a real client need, than for core services which have been free in the past. The Irish scenario demonstrates that the public is unwilling to pay for these core services and a downward spiral is set in motion as people back away from a dwindling collection, thus bringing in less revenue that was anticipated. This may be avoided if fees are accompanied by a marketing exercise, or if market research has shown that new, enhanced or niche services may succeed in a particular environment. Such services often attract users into the 'free' library, as with the New Zealand rental collections, and the revenues received may be used to cross-subsidise less profitable areas.

Part Two: The Singapore Experience

Singapore is a wealthy country, whose ongoing economic prosperity has survived the Asian economic crisis of the late 1990's. A healthy financial surplus has been achieved by government year after year and a proportion of this has gone into projects to build up infrastructure for the benefit of future generations. Among these projects is a massive expansion of the public library system, as outlined in the Library 2000 Report, with a commitment to spend S$1billion over an eight year period (1996-2004). Details of the plan are summarised by Hepworth and Harvey (1996), who compare the initiative with Australia's lack of action in this arena. Singapore's promotion of information literacy throughout the whole population, including those already in the workforce and therefore outside the traditional education system has been discussed previously (Butterworth, 2000). At this point, it is sufficient to note that any policies put in place by the National Library Board (NLB) in relation to charging for services occur in the context of well-funded libraries. There is a completely different rationale for imposing fees which will now be examined more closely.

Information is seen as valuable, an aid both to business decision making and to an enhanced lifestyle. It is also costly to produce and costly to access, in an age when more and more of it is stored digitally. These attributes are well understood by information professionals but not by the general population. Society needs educating into the realities of today's information marketplace. To give it away free would not send the right message to Singaporeans. Further, the government has an across-the-board policy of limiting the use of scarce resources, whether these are medical services or roads into the central business district or, indeed, library books. Charging fees is the simplest means of curbing unreasonable and excessive consumption. There is in Singapore what is known as the 'buffet table syndrome' where people are tempted to load up their plates at a buffet regardless of how large their appetite is. The Chief Executive of the National Library Board expressed it in these terms:

> Some people always choose the maximum that they think they can consume, without actually being able to consume it. They get indigestion. So that's one of the primary reasons why we introduced a modest fee, for the purpose in a sense of discouraging overconsumption of scarce resources... Society is limitless in its consumption. So we say we have to meter out, if you like, consumption.

(Chia, 1998).

Chia was here referring to a plan to charge the public for borrowing more than the standard 4 books per head. For the previous few years, the borrowing limit had been 8 books per head, but the number was reduced, since Management took the view that overborrowing was occurring in the sense that people always borrowed up to the limit, regardless of how many books they could actually read. Keeping the books on their shelves at home effectively prevented others from accessing those books. Charging was viewed as a means of reducing extravagant wants to the level of realistic needs.

Chia also justified charging for access to electronic information, whether this was in the form of CD-ROMs, video or the Internet. Access in the library was limited by the number of terminals on the site, and when the use of such terminals was free, long queues of children formed at opening time, and they booked up the terminals for the whole day. This prevented other users, with a sudden urgent need for information, from obtaining it. It was decided to impose a small fee of $2 per hour. This has effectively regulated demand. There are no queues to be controlled and a booking system is unnecessary. It appears that even a small charge makes people ask themselves whether they have a genuine need for the service. Chia does not see $2 as an excessive charge which might deter people from using the Internet. Compared with the expense of setting up equipment at home, it is in fact a bargain: 'For $2 they get the power of the best content. So if you look at it, $2 is not a bar, it's an encouragement', (Chia, 1998). He regards the library as a social leveller in providing Internet access to those who cannot afford their own equipment at home.

The issue of charging for services was dealt with briefly in the Library 2000 Report in a section entitled 'Quality Service Through Market Orientation':

> To ensure that the library services meet real market demands, the Committee recommends that library services such as alerts, information analysis and document delivery be chargeable. Basic services such as lending should remain free. Chargeable services should still be subsidised, although in cases where they provide exceptional value to users, they can be priced at full cost recovery or market rates.

(Library 2000, p 87).

Clearly, the planners saw the imposition of charges as a management tool which would allow the market to test the relevance and evaluate the quality of new and non-core services. This was particularly important, they felt, as public libraries were now facing competition and people needed to be 'enticed' into becoming active users. As people become 'more sophisticated and affluent, they expect higher standards of service', (ibid, p 86). The basic core service of borrowing 4 books for 21 days is free of charge. Apart from this, charges are imposed for many small services, which in other countries tend to be free. These are listed in the following chart:

NLB Fees

Fines $0.15 per day

Renewals $0.50 per item

Reservations $1.55 per item

Membership for non-citizens,

resident in Singapore $10.30 p.a.

Lost membership cards

under 15 years $1.00

15 years & over $5.00

Lost/damaged materials

cost plus admin fee of $5.15

Lost/damaged casing for CD

or video $1.03

Note: the odd amounts are accounted for by the 3% GST.

(Source: leaflet of library regulations for new members, 1998).

In addition to these basic fees, and after a number of years of experimentation, a new 'Premium Service' was introduced in August 1999. On payment of an annual subscription fee of $20.60, borrowers could take out an additional four books or magazines, plus the videos and CD-ROMs already available at selected branches.

Cashless libraries

As has been noted, the NLB charges small amounts for a variety of services. In other countries the administrative costs of collecting small sums of money are regarded as too high for any financial benefit to accrue. There are also fears that library staff may be put at risk by the danger of petty theft, if money is known to be on the premises. Smart card technology has the potential to solve all these problems. The Singapore government saw the benefits of electronic transactions and pioneered the development of a national cashcard. The system was developed at a cost of $40 million over five years by a consortium of seven local banks , which also operate the NETS system of ATM machines. It was estimated that the payback period would be 14 years. The cards were officially launched in November 1996, (Chia, 1996). They incorporate a small electronic chip, which allows the card to be loaded and re-loaded with cash, and have the potential to be used as an 'electronic purse' for small amounts of money when it would not be appropriate to use a credit card. The benefits of the system were described by the NLB's Director of Corporate and International Relations:

> It is part of the whole government initiative to try to get business and service providers and members of the public to start using cashless payments. Because I think there is a lot of inherent inefficiencies in handling cash: both on the part of the users as well as the service providers. They made a study: there is a lot of backroom work: receiving cash, a lot of precautionary measures every day, you've got to count and tally the cash, check the accounts, keep the cash, arrange for the cash to be banked, arrange for security guards if it's a large sum of money. All this actually consumes a lot of work, a lot of cost, and it translates to inefficiency in the system. If you look at it institutionally, if you look at it globally, it translates into a lot of productivity lost. So that's why the government for many years now has been encouraging various service providers, ministries and departments which provide services, to move towards cashless.

(Ng, 1998).

When the NLB adopted the use of the cashcards, there had been few instances of their use in libraries, and these were in the academic sector. One such trial took place at the University of Exeter in the UK, beginning in October 1996. A detailed account of the technology of smartcards, as well as the practical problems of their implementation in a university library is provided by Myhill, (1998). They seem particularly suitable for use in discrete communities, such as universities, where it is easier to insist that every member obtains a card. In the world at large, there is always a certain amount of resistance to the use of such technologies, which means it is difficult to achieve a critical mass of users. In Western Australia, the E-Card was issued to 450,000 members of HBF, the state's largest private medical insurance company, in August 1998, (HBF cards get smart, 1998). It has been slow to take off, however, because people seem to prefer to go on using cash for small purchases. In Singapore, government intervention was instrumental in assuring wide adoption of the scheme, with large traders such as the FairPrice and Cold Storage Supermarket chains, Guardian Pharmacies and Singapore Post embracing the technology early in the piece, (Chia, 1996). The Electronic Road Pricing Scheme ensured that motorists using the most congested sections of freeways would all have cashcards in their possession.

The process of going cashless was not without problems, both for library staff and their clients. A major difficulty was that children, who made up around 50% of library users, did not have cashcards. A publicity campaign was mounted in the weeks prior to the changeover, and the staff were trained in responding to 'Frequently Asked Questions' in order to ensure that they were fully conversant with library policy on the matter. In hard cash terms, the amounts collected from the machines are not inconsiderable. As an example, this chart shows the collections from the four machines at Choa Chu Kang Library for the week beginning 7 September 1998:

Counter Machines Public Machines

	1	2	3	4
Cash	$517.64	$1,861.18	$175.81	$442.40
Transactions	83	283	48	232

Source: NLB internal statistics gathering sheet.

These weekly returns, based upon daily settlement sheets, which the machines print out, provide a wealth of detailed management information which is crucial to monitoring the system. The collection of this money in hard cash would be very time-consuming if done manually, both in the handling of the many small transactions and in the balancing of the books at the end of the day. The smart card system, when running smoothly, will undoubtedly mean that staff can be re-positioned in a more service-oriented capacity. However, to arrive at this situation has meant a lot of trial and error, both in programming the machines and in educating the public to use them. It is unlikely that this could have been achieved without the driving force of the ideology of a cashless society, described earlier by Ng.

Other initiatives

Perhaps the most difficult part of Singapore's strategy to implement has been the policy of charging for value-added services. Calculating how much to charge for the more labour intensive services such as reference, business information or even the innovative home delivery service has been fraught with problems. Striking a balance between what the market would stand and what the library's political masters desired to see in terms of profit, or cost-recovery, was not easy. The NLB senior management team had a brief to look for new services which would at once attract more clients and raise the library's profile, but they were hampered by a population which had never been exposed to such services and were accustomed to viewing their public libraries as being out of date and indeed not worth visiting even if they were free!

The experimental (HDS) Home Delivery Service was introduced in December 1993, at a time when stock was being collected prior to the opening of Tampines Regional Library, when the new building was still awaiting shelving and other internal fittings. Library members could search the online catalogue remotely, request up to four books and have these delivered to their home by Singapore Post. The new service received a lot of press coverage and was popular initially mainly because all the requested titles were available, receiving an average of 100 requests per month in its first year of operation, (Home delivery service working out well, 1994). After the opening of Tampines in 1994, titles wanted for HDS were often not available immediately because most of them were on loan to users. Since then interest in the service has declined. The NLB looked into ways to re-vamp it during 1999, firstly by commissioning a user survey, including feedback from focus groups, (Tay, 1999).

Using the strategy of forming synergetic partnerships, the NLB signed a Memorandum of Understanding with Singapore Post on 11 January 1999 to conduct a joint study to look into the feasibility of establishing the Library Delivery Service, an extension of the old HDS. The successful tenderer for the market survey was Media Research Pte Ltd, a company employed by the Television Corporation of Singapore for its survey of the popularity of its programmes. The objectives of the survey were to discover if Singaporeans, both in the general population and in the business sector, were receptive to the idea of a library delivery service and if so, how much they were willing to pay for such a service. In total, 419 respondents were interviewed at 5 community libraries, 751 respondents were interviewed through house-to-house visits (users and non-users of libraries), 220 business representatives were interviewed by telephone, and finally 46 past and current users of the Tampines HDS were telephoned. It was a costly survey and the results were somewhat inconclusive, from the point of view of a library manager deciding on whether it was worthwhile introducing an island-wide library delivery service. Overall, the enthusiasm for a service was luke-warm, with most interest coming from the business sector and from those people who lived furthest away from a branch library. The most interested segment within the general population were those in the 30-34 age-group, professionals earning at least S$6,000 per month. It was recommended that the NLB should target these people in their advertising campaign (Executive Summary, 1999). This exemplified a major weakness in this type of market research: asking people if they might use a service, the quality and usefulness of which they are unable to judge in advance, is likely to yield unreliable data.

The area which has most potential for the transformation of expertise in librarianship into a value-added component which can be fee-based is reference service. It is, however, the area where quality control is problematic. The fall-out from the research studies of the 1970's and 1980's, which demonstrated that reference questions were only answered correctly around 50% of the time, (Hernon & McClure, 1987), is hard to escape from. There are nevertheless success stories around the world, both in the public and academic library sectors, where reference services have been turned into profitable businesses. The NLB would like to become one of these. Members of the management team have visited Shanghai, London and various parts of America in search of ideas as to how it can be done. Whilst the National Library in Stamford Road was closed for renovations for a period of 9 months in 1997, planning began. It was felt that a 3-tier reference service was the model to implement. Tier One would be for quick reference queries, taking a few minutes, to be dealt with by paraprofessionals. Tier Two would be more complicated questions, to be dealt with by professional reference librarians. Tier Three would be research questions which need to be referred to subject specialists. It was expected that Tiers Two and Three would be chargeable services, with a suggested flat rate of $10 for Tier Two and $30 for Tier Three, (Sidek, 1997).

There were serious qualms by the operational staff as to whether the public would receive value for money under such a system. Firstly, the paraprofessionals had never answered reference queries before; they had simply assisted users in the use of the OPAC in order to identify titles. For these paraprofessionals to decide whether they themselves should be able to answer a query or whether it should be referred to a professional would be difficult, especially when the Asian dislike of 'losing face' is taken into account. Secondly, the professional staff themselves were mostly new recruits, some from overseas, and therefore unfamiliar with Singapore current affairs, and some young graduates, still taking the Masters Course at Nanyang Technological University. At both professional and paraprofessional levels, there was a staff shortage. As well as staffing the Information Desk for personal visitors, there was a separate service, known as Reference Point, for remote enquirers. Here the staff responded to all incoming queries, whether via phone, e-mail, fax or conventional mail. It appears that the worries of the ground staff were finally taken on board by management, as the new fees structure still has not been implemented. The reason given was that the Asian economic downturn made it an inauspicious time to do so. In practice, the delay has given the staff plenty of time to put in place a three tier system of operating, but without the charging element.

During this period, work was also started on the creation of an enquiry database, to record queries, the action taken and the response given. This was seen as both an important source of management information and a means of building collective expertise within the team of reference staff. It also fitted into the overall NLB policy of employing technology to improve quality and save staff time.

> It's basically to help us manage our services, like our collections: this is what kind of enquiry we are answering well, what we are not answering well. Collection development: all those implications as well. Also, performance measurement. Tells us what we are doing right and wrong... Now we search it because we want, say: OK, I have this question. Let me see if any other staff has done some work that I can use, and go from there. It's more like a tool for us.

(Wee, 1998).

There was also a plan to make use of this database in the branch libraries, where there would not be a reference collection or any reference staff as such. The branch staff could search the database to answer queries they received, and if they were unable to find an answer, they could forward the problem to the staff in the Central Reference Library. Built into this database from the start was a charging module. This was designed to manage the whole charging system, from calculating the amount to be charged (depending on issues such as administration fees, specialists' time, fax charges, photocopy or other document delivery charges, fees for searching online databases, GST, etc.) to monitoring if and when payment was actually made.

An area of concern in Reference Point was how to charge. Personal visitors to the library could pay by cashcard, but the remote enquirers could not be charged in this way. The suggestion of using credit cards was tabled, but some staff felt that this would disadvantage lower income users, who may not have a credit card. Also the amount might be too low to permit the use of a credit card. Allied to this, was the problem of providing responses electronically, when it might be seen as a breach of copyright to transmit, say, a newspaper article retrieved from a database such as FT Asia. At present, staff could only supply a summary of the information; if the enquirer needed to see the full text of the article, then they would have to make a personal visit. In November 1998, it was expected that the twin problems of charging remote users and the copyright issue would be solved in the near future, in time for the implementation of fees for reference service, (Wee, 1998).

Co-incidental with these preparations for streamlining reference services is a plan to establish a call centre to deal with remote enquiries, whether these are reference enquiries in the true sense or whether they are questions regarding library rules and regulations, ranging from opening times to information about services. In other words, the plan is to divert all incoming calls to branch libraries to the single call centre, where the telephone system distributes the calls (after giving the caller the opportunity to select a digit on their telephone) to operators who specialise in that type of enquiry, or perhaps who can handle calls in a particular language. The use of call centres and their potential for the library and information community has been briefly summarised by Milner (1999). This includes a controlled process for the consistent treatment of customers, through a highly systemised way of working, better use of scarce specialist staff and reduced costs per transaction. In Singapore, the well-developed telecommunications infrastructure lends itself to the establishment of regional call centres. Hewlett Packard's call centre, for example, fields calls from all over Asia, in many languages. The NLB's Reference Point was designed with 10 terminals. In November 1998, only 3 were in use at any one time, and these were devoted to traditional reference enquries. The telephone system distributed the calls evenly between the 3 operators who are all reference librarians. Reference Point received one third of all reference enquiries, that is 2000 out of 6000 per month, (Wee, 1998).

It remains to be seen whether it is feasible to combine the call centre concept with that of a remote reference service. It is certainly an easier proposition to centralise all incoming library calls which deal with operational aspects of the lending service, and it would be more economical to site this type of call centre outside the Central Business District, with its high land values. Answering reference enquiries needs access to a specialised collection of printed and electronic sources, which will also be needed in the Central Reference Library itself, and relies on experienced reference staff whose expertise can be assisted by, but not replaced by, access to an Enquiry Database such as the one under development.

Conclusions

This paper has attempted to summarise different ideologies which underpin policies for charging fees in public libraries. Sometimes these policies conflict with a library's overall mission of encouraging access to information. However, in today's economic climate, the financial outlay necessary for maintaining and improving access especially to electronic information is growing more and more costly. It is becoming greater than the public purse will bear. Singapore's purse is deep, yet that country has adopted a policy of educating the citizenry about the value and cost of information. The implementation of this policy has not been easy. Experiments with innovative services and pricing levels are still ongoing. These are worthy of observation by other countries where it may be harder to effect change in the face of long-established traditions.

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Proceedings

Today I want to talk about piracy

Alex Byrne

> *Today I want to talk about piracy and music. What is piracy? Piracy is the act of stealing an artist's work without any intention of paying for it. I'm not talking about Napster-type software. I'm talking about major label recording contracts - the system's set up so almost nobody gets paid.*[1]

So the singer Courtney Love began an address at the Digital Hollywood Online Entertainment Conference in New York on 16 May this year.

Well, I too want to talk about piracy but my concerns extend beyond the exploitation of singers by recording companies and others in the music industry. I want to concentrate on the

- loss of the longstanding balance between public and private interests in regard to intellectual property;
- undue emphasis on the monetary value of intellectual property - leading to the neglect of its cultural and intellectual value;
- fear of the new - new technologies and new ways of doing business;
- use of licensing by publishers to subvert copyright provisions;
- need for more sophisticated models for handling intellectual property.

Loss of balance

As we are all aware, for 300 years our intellectual property tradition has been based on the fundamental principle of obtaining a balance between public and private interests in regard to intellectual property. Since the Statute of Anne, intellectual property law has conferred exclusive ownership of intellectual property on its creator for a limited time followed by translation to the public domain. It has balanced public and private interest by recognising that the copyright owner has an entitlement to benefit from the publication so as to get a return on effort and to encourage further production but that, in the long run, the public needs to have unfettered access. During the period of exclusive ownership, the creator could sell, assign or license use of the property. But even during the period of ownership, the public has had a right to 'fair dealing' to be able to use copyright material for research, scholarship and criticism within certain limitations. In the broadest sense, fair dealing has included the capacity to read publications, lend them (but not for profit), and copy limited portions without payment to the copyright owner.

This principle ensured that the creator would have an opportunity to profit from the invention, novel, composition or other creation. However, the community, which provides the foundations and context to foster creation, will be able to take advantage of it after that period. This recognises, as Isaac Newton did in his famous adaptation of the medieval aphorism "If I have seen further it is by standing on ye sholders of Giants"[2], that all discoveries, inventions and expressive works are in some way based on the works which preceded them. It also recognises that the community provides the necessary receptive social and economic environment for creation.

The twentieth century saw the erosion of those provisions. Changes were made two to three decades ago to accommodate the spreading photocopying technologies. Today copyright laws are being amended to cope with the opportunities offered by digital technologies.

The period of exclusive ownership has been extended at various times in various countries to now reach life of the creator plus 70 years. While this is often justified as necessary to ensure that the creator should benefit from the creation, it is absurd to suggest that such benefit may be obtained 70 years posthumously. Even the creator's dependents are highly unlikely to need such a long period of protection for their inheritance. The major reason for these repeated extensions has been to protect corporately owned intellectual property, particularly that generated through recorded entertainment, films, music recordings and their successors.

There have also been attempts to eliminate fair dealing, suggesting that it is unjustifiable exploitation of the work of others rather than an element in the continuing cycle of creation and use. In Australia, a long tussle with the copyright collecting societies appears to have been resolved in favour of extending the longstanding principle of fair dealing to the digital environment.

The loss of the longstanding balance of interests has been to the detriment of the public interest. Where does the community get a return on its investment in the environment for creation? In reviewing the trends over the last century, it is evident that the fundamental basis of copyright is being subverted.

Undue emphasis on monetary value

Copyright Collecting Societies, such as the Copyright Agency Limited (familiarly known as CAL) and Screenrights, were of course established under the Copyright Act to collect fees for remunerable copying on behalf of creators. Similar organisations exist to cover other uses or forms of copyright materials and in other nations. In Australia, funds are collected on the basis of records of usage or through fees for licences, including statutory licences, to make prescribed uses of copyright materials. Funds are disbursed to creators and publishers. This is not a small business: this year CAL has a record $21.4 million available for distribution, bringing the total to $130 million since 1989[3]. CAL notes that 41% of recipients are author members (including writers, journalists, artists and photographers) and 58% are publisher members: more than 80% of the fees collected is returned to the members. CAL also makes grants to relevant organisations, such as the Australian Society of Authors, to assist them in their work.

Michael Fraser, Chief Executive of CAL, exclaimed at a National Scholarly Communications Forum Roundtable in Canberra on 4 May 1998 "Photocopying is theft!" He was dramatically highlighting the "PROPERTY" attribute of intellectual property by suggesting that any reproduction or use, unless authorised by the intellectual property owner or the owner's agent, represented unauthorised exploitation of another's property.

Such histrionics aside, it has been evident that much of the last decade's discussion of intellectual property has emphasised its monetary value, stressing that "PROPERTY" attribute. In fact, however, much intellectual property is produced primarily for other reasons, including especially intellectual curiosity and creative expression. Many creators are rewarded in other ways, as for example the tenure/promotion track for academics. This is not to say that creators should not benefit financially from the popularity and use of their creations but merely to note that there are other forms of reward and other issues to be considered.

Those other dimensions include the cultural and intellectual value of a creation. A work of art delights the eye, a composition the ear, a novel the mind. Inspiring such delight is a powerful motive for many creators as is communicating their inspirations and insights. There is a danger that in focussing overmuch on the monetary value, the price, of creations we will so constrain them that they will be no longer accessible to inspire and to delight.

The deep pockets of the collecting societies, such as CAL, and the large publishers and conglomerates, such as Reed-Elsevier and News/Fox/HarperCollins, are financing the campaign to consider intellectual property just as "PROPERTY". Their advocates nearly won the day at the WIPO negotiations in Geneva but a rearguard action by the advocates for readers and other users of intellectual property, including libraries, salvaged recognition of the other dimensions.

Fear of the new

Much of the debate has been coloured by fear, fear of the new, fear of new technologies and fear of new ways of doing business. Limited understanding of the new information and communications technologies has provided a fertile bed for anxious publishers to imagine that their publications will be copied willy-nilly, destroying their businesses. Creators similarly have been told that they will lose control of their creations, and any reward from them, due to the ease of transformation and distribution. We might imagine early Renaissance authors being told similar stories by the monks of the Scriptoria as word of the new printing technologies spread!

> *"The growing and dangerous intrusion of this new technology", Jack Valenti said, threatens an entire industry's "economic vitality and future security". Mr Valenti, the president of the Motion Picture Association of America, was testifying before the House Judiciary Committee - The new technology, he said, "is to the American film producer and the American public as the Boston Strangler is to the woman alone".*
>
> *It was 1982, and he was talking about videocassette recorders.*[4]

In fact, of course, film making survived, as did the big studios, and video rental income now rivals box office receipts. Similarly, in 1908, the US sheet music industry challenged the new player piano technology but the Supreme Court held that perforated paper was not a copy of musical notations for the purposes of the copyright law. The Court noted that the case was of very considerable importance because it involved "large property interests" and "the rights of composers and music publishers" but held that the existing law did not prohibit the new technology.[5]

These precedents have been recalled by the recent furor over the Napster facility for downloading loading of music. Some have blustered:

> *Sony is going to take aggressive steps to stop this. We will develop technology that transcends the individual user. We will firewall Napster at source, we will block it at your cable company, we will block it at your phone company, we will block it at your [ISP], we will firewall it at your PC - because there is simply too much at stake.*[6]

Recalling Courtney Love's speech, is it the creators who have too much at stake or those who are currently exploiting their talents?

Others have been more far sighted, including Professor David Post of Temple University who noted that:

> *The people who will make money are not those saying, "You're infringing my technology". The people making money here are those thinking, "this is a really neat idea".*[7]

He also pointed out that courts should be concerned about the interests of those not before the court including people who merely retrieve from remote locations music they already own, musicians who welcome the new opportunities to distribute their work and copyright holders who think that sampling will encourage purchase.

Universities have negotiated a number of agreements which prescribe the types of uses, such as copying and digitisation of print materials, and the applicable fees. They relate to the primary activities of universities, teaching and research, and continuing education programs. The extension of the statutory licence agreement with CAL in regard to photocopying to cover digital copying and digitisation at the beginning of 2000 was a major and very welcome achievement. However, it has brought its complications including difficulty in reaching agreement on how sampling of digital copying in universities might be carried out. It is critical that any such approach should focus on the digital copying of materials licensed by CAL and not employ a broad net which will capture copying of materials under fair dealing or which are out of copyright, copyright to the body making the copies or licensed in some other way.

Similar anxieties have been evident in regard to scholarly information with publishers dragging their heels in implementing the new technologies. The exploitative behaviour of a few major publishers has diverted attention from the value that publishers add. That considerable contribution in such areas as selection, editing, standardisation, presentation, and indicating quality and authenticity should not be ignored. Much has been made of the use of pre-print servers as a way of undermining rapacious publishers but few of the models suggested preserve these unquestionable benefits. The answer does not lie in rejecting or constraining the new technologies. It lies in embracing them, achieving efficiencies and improvements in delivery through their use, and developing new business models which enable profitable enterprises to continue to deliver those benefits.

Licensing

An approach used by some publishers to subvert copyright provisions is the licensing of electronic products rather than their sale. In many cases, our own users will only be able to access those electronic resources while we continue to subscribe. With printed materials, we had them till they crumbled. With licensed materials only while we pay.

While some suppliers have attempted to respond by agreeing to perpetual access to those portions to which we have subscribed, the reality is that it will be unlikely that perpetual access will mean anything after a few generations of hardware and software. Even if it did, there is no guarantee that the supplier will still be in business or that its successor companies could be held legally responsible 'in perpetuity'. This consideration demands a concerted approach to the archiving of electronic publications through public institutions to safeguard access to information for the future. In other words we need a legal deposit system, coupled with means of archiving and accessing the publications for ever.

At its most cynical, licensing represents an especially pernicious method of circumventing the public domain. Making intellectual property available only under a limited license has become a way of seeking to prevent it from ever getting into the public domain through such devices as continual renewal of copyright and ensuring that only the publisher ever owns a copy. There is no legal deposit and hence no responsibility to future generations. It is difficult to see that anyone benefits from licensing except the publisher which retains total control over its intellectual property. It can further exploit the property at a later date or sell it as an asset. Should its value to the organisation diminish, it can be disposed of - either actively by deletion or passively by leaving it in an unsupported format so that is fades into unreadable obscurity.

Jim Neal, University Librarian at Johns Hopkins University, said recently "We should ensure that copyright drives licensing not that licensing drives copyright"[8]. We must add the codicil " - AND that copyright is driven by the public interest".

More sophisticated ways of handling intellectual property.

Reflecting on the issues raised in this paper, it is clear that there is a need for more sophisticated models for handling intellectual property.

At one extreme we find the 'intellectual PROPERTY' which is produced purely for commercial reasons, to make a buck. It includes most of the mass media, films and popular music. As it represents a major asset to its owners, its protection is vitally important to the corporations which own it. They need to own it in perpetuity in case new methods of exploitation should arise. An example is the Twentieth Century Fox film library: from an archive of old films which were mainly of interest to film buffs, it became a key asset for the News Corporation's global media interests.

At the other extreme is 'INTELLECTUAL property': creative and intellectual work which is produced primarily for the non monetary rewards gained by the creators. This includes poets who wish to express themselves with no expectation of royalties, experimental filmmakers and scholars. Intellectual freedom, which is so vital to individual freedom and to economic success, is ensured through the ability to express ones own views and to hear those of others.

This is not to say that the former has no artistic or intellectual merit nor that the creators of the latter would not wish to share in any income resulting from their work. Far from it, many mass market films and other works have considerable artistic merit. And no poet starving in the proverbial garret or academic in a threadbare office is likely to refuse a royalty, no matter how small.

The dichotomy only highlights the very different motivations and expectations at each extreme. It shows that an intellectual property regime which is based on the primary premise of maximising financial reward is fallacious. Without a balanced approach to intellectual property, intellectual freedom is constrained. The range of concerns demonstrates that we must develop more sophisticated models for handling intellectual property, models which enable Disney Corp to exploit Mickey Mouse to the tips of his ears while not constraining creativity and scholarship.

In this context, the OED defines piracy as "The appropriation and reproduction of an invention or work of another for one's own profit, without authority; infringement of the rights conferred by a patent or copyright."[9] The true piracy here is that practised upon the public interest. We must repudiate the powerful forces arguing in favour of longer (if not infinite) terms of copyright restriction and opposing fair dealing and the traditional exemptions for education, library use and so on. We must seek to restore the balance between private and public interests and promote intellectual freedom.

Notes and References

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Proceedings

Library Industry Statistics for the 21st Century

Ainslie Dewe

Introduction

The argument for keeping reliable statistics was expressed elegantly by Anne Wolpert, Director of MIT Libraries. "There is little use in trying to persuade MIT faculty about scholarly communication issues by invoking traditional rhetoric (eg. "the library is the heart of the university"). What they want to see are the data". Anne "sees the demand for data as a positive factor and has provided for this culture by developing a ready storehouse of data on costs and usage."[i]

The annual collection of statistics by CAUL (compiled by CAVAL and published as a supplement to *Australian academic and research libraries*) has served as the storehouse for Australian and New Zealand university libraries. However the need for comparability across institutions has lead to some of the data being dropped, eg circulation figures, and this in turn has increased the need for individual institutions to collect additional data relevant to their own circumstances. Clearly circulation data is relevant within an institution from year to year, even if not comparable with other institutions which may have different lending conditions. Within an institution it also become important to add statistics for new methods of delivering information items, other than by lending them eg photocopying, network printing.

In-library use of print material has never been effectively measured although research by sampling has suggested that it can be up to ten times the volume of recorded loans. The electronic equivalent of in-library use, accessing databases, can now be recorded with varying degrees of accuracy. It highlights a difficult balance to be maintained between recording data consistently over a period of time to provide a longitudinal perspective and constantly reviewing the set of data collected, adding and discarding according to relevance.

Statistics for decision making

The first level of value which can be added to raw data is the calculation of ratios. 'Loans per EFTSU' conveys more information than loans on their own. Loans as a percentage of total volumes provide the business equivalent of turnover. We can then move into the realm of interpretation by suggesting that loans from the Reserve collection, as a percentage of total loans, is a measure of intellectual curiosity. Are the students reading only what they are told to read or are they reading around the subject in the rest of the collection? Document delivery as a percentage of total loans could be viewed as a measure of the level of research or alternatively may indicate the inadequacy of the collection. Either interpretation may be valid.

We may find that changes in policy provide us with the opportunity to collect management data we had not previously considered. A number of university libraries in the UK have introduced cards for library entry via access gates in order to restrict access to their own users. They have then found that the data can be analysed by user category (faculty, level) in a way that has never been possible with exit counts.

Representing the data in graphical form and adding some narrative commentary increases the decision-making value of raw data. The Canadian Association of Research Libraries produces an excellent analysis of the data they collect, adding a new dimension to the process.[ii]

With some imagination the statistics can even be made interesting. A good example is given in the

Library and information news at Exeter.[iii]

> "Total floor space runs to around 10,500 sq metres; imagine the pitch at Wembley extended in length by 50% (it's a game of three halves -)
> Collections in the various Library buildings top 1 million volumes of books and periodicals. If these collections were stacked in a single row they would stretch for 30 kilometres - or 15 minutes of (slightly illegal) motorway driving.
> It would take every opening hour of all three terms to hear all the blues recordings in the AV section of the Main Library. If you did you'd be depressed, but that's why they call it the blues."

After more statistics in this vein the punch line is "To maintain this, in terms of staffing, operating and purchasing budgets, the University currently spends on the Library approximately £5 per week for every student. We hope you agree that, whatever the future holds, we already offer good value for money."

This is a very effective way of demonstrating the worth of the Library.

Underpinning management processes

The statistics we collect are essential to feed into broader management activities. Often it is only when we begin these activities that we identify the shortcomings in our data collection. These activities include:

- Cost benefit studies
  Libraries usually have good data on costs but find it more difficult to balance this with quantifiable benefits in financial terms. A project carried out by Coopers & Lybrand for the New Zealand Library and Information Association developed templates which could be used by libraries to demonstrate the return on investment in library assets by assigning market value proxies to turnover. The data is entered into a profit and loss statement, and enables libraries to demonstrate their economic worth to their funders.
- Activity based costing
  This technique provides a mechanism for comparing the full costs of different library activities and making decisions on which services to promote eg information literacy classes compared to one-to-one enquiries at the information desk.
- Quality self assessment
  In its quality self-assessment project the RMIT University Library noted that analysis and interpretation of its data was made in the context of the Library's Performance Plan. There is a close relationship between this and the annual budget process, which requires supporting evidence from the University's student feedback processes. The Library also includes data collected through the CAUL Client Congruence Survey (both qualitative and quantitative) to support its budget requests.
- Library reviews
  These invariably begin with an examination of statistical evidence as part of the background for further consultation, before the presentation of recommendations.
- Balanced scorecard
  The introduction of the Balanced Scorecard at RMIT University to measure progress in its IT Alignment Project has required the Library to present statistics in areas such as: availability of digital information services; number of full text digital titles available; number of visits to Library web server; number of Mb transmitted per month. The relevance of the Library's contribution to the wider institutional context becomes immediately obvious.

Conclusion

Statistical analysis, like many disciplines is both a science and an art. As we move along the continuum from data to information to knowledge to wisdom, the rules evaporate and the need for intellectual rigour, initiative, excellent communication skills and judgement prevail.

Footnotes

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Proceedings

'Free at Last' - Information in the New Digital Age

Peter Donoughue

According to our brief, this panel is to 'discuss new means of providing information directly to users, and the resulting new relationships developed between users, publishers and libraries'. The gist of my presentation will be that, although in this emerging digital age all of our old roles and partnerships in the information chain are breaking down, new models of collaboration are emerging and, in fact, will have to emerge if a professional job is to be done in the 21st century.

It is my contention that going direct is a false god.

All of us in the information profession - authors, agents, artists, publishers, booksellers, and librarians - are privileged to live in perhaps the most exiting time in our industry for a century or so. We are in the midst of a genuine revolution. I've been in this industry for 27 years but I've never felt so challenged or so ignorant. There are very few signposts, and barely a pinprick of light at the end of the tunnel. Most people in situations like this - in other industries for example - are reduced to becoming rather quiet and reflective, even a little humble.

But not in this industry!

In this industry we've indulged! We've been endlessly debating, arguing, positing and generally holding forth with strong views. It is an industry with passion, which is perhaps why we love it. Authors sense that the time has finally come when they can be liberated from the oppressive grip of multinational publishers. Publishers are welcoming the opportunity to sell direct to their end users, thus freeing themselves from the tyranny of petty-minded, anally retentive booksellers. Librarians are eagerly anticipating the long overdue liberation of scholarly information from the grip of rapacious Reed Elseviers.

There is a running gag in the publishing industry that surfaces every AGM of the Australian Publishers Association when each sector of the industry gets up to report on its particular issues over the prior year. The report we all look forward to is that of the Christian publishing industry. It's always a drama of vicious in-fighting and intrigue - publishers plotting against each other, and crucifying booksellers, etc. Very soap opera and very entertaining. And it's the same every year!

There's a lot of that in all of us in this industry.

Take the most recent debate over the new Digital Agenda Bill for example. Strong passions have been aroused for the last five years or so over these issues. It has been really extraordinary. The publishers and CAL have been fighting the librarians and the universities tooth and nail, with no quarter given.

Let me quote you a few colorful phrases and sentences at random just to remind you of the flavour of it:

- 'Libraries stand in the way.'
- 'The AVCC's submission is profoundly wrong. It fails completely to understand the nature of the new paradigm that is represented by digital publishing - it fails to comprehend the business, legal, and indeed moral realities at issue.'
- 'In the face of widespread, unsubstantiated claims and ill-informed comment on the changing roles and new commercially-oriented nature of libraries, ACLIS takes this opportunity - '
- 'The use of technology in our libraries is being effectively stymied by - collecting agency

recalcitrance.'

- 'The global wolves are increasingly circling Australian universities and their output.'
- 'The draft legislation if enacted would be severely detrimental to Australian consumers.'
- 'It's a grab for more money by the big foreign publishers. They grossly misrepresent non-profit libraries as free-riders which will compete with commercial publishing ventures.'
- 'The publishers wanted the chance to make even more money out of a sector that already forks out tens of millions of dollars buying their product. They didn't get it.'
- 'It is absolutely necessary for the government to realise what a mish-mash it seems to be making of this whole agenda.'

Now that the legislation, clumsy and clunky as it is, has been finalised by the government and passed through the House, a peculiarly Australian thing has seemed to me to have happened. A sort of peace has descended as if the game is over - time to get back to work.

Things have been lost and won on both sides, but the overriding sense is that the business will go on, that it's in safe hands and that all sides will continue to dialogue and collaborate because we must. Pragmatism will win out. I'm certain that many participants in the debate are still not quite sure of the final outcome on many of the finer points they vigorously argued about, but they were vitally important at the time. For me personally it's a relief to get back to talking to customers rather than to lawyers. Lawyers continually mistake the scaffolding for the building. The business we're in is the building, and it can stand on its own.

So to return to my main point - this passionate industry of ours is in the habit of indulging in rhetorical overkill on a regular basis. We are in the business of words, and when it comes to our own fights, squabbles and campaigns, words are our weapons.

Unfortunately, it means we do very little listening to one another.

If authors listened to publishers more we would mercifully be spared the constant and irritating refrain (oops, some verbal jousting there!) that they are prisoners of some ancient rip-off, getting only a pitiful 10% royalty from publishers, whereas on the net they could post their work direct to readers, and like Stephen King, walk away with most of the profits from any sales.

If publishers listened to booksellers more they would surely be more enlightened as to the real dynamics of consumer purchasing and choice, and many other things that would force them to realise that that ancient reality of a retail shop front is a fairly deeply-entrenched social phenomenon. I would have thought Amazon the latest confirmation of this.

If libraries listened to publishers more, and if publishers listened to librarians more, we surely would have been spared the ignorance, naivety and lawyer-driven abstractions that infested the debate over the Digital Agenda Bill and ended up with a far better bill in the process.

The truth is that we are all grappling for new roles and identities in the new age, but to me one thing is certain: none of us are going to succeed by going it alone. We may now have new technological means of providing information directly to users, but there is no escaping the laws of economics, there is no escaping the laws of human nature and community, and there is no escaping the positives that the collaborative models of the past have provided and continue to provide. The impulse to throw off the shackles and go direct continually erupts in the information industry, but it is just as flawed a strategy today as it has always been.

Authors cannot go it alone. They will simply transform themselves into amateur publishers, and then belatedly rediscover the virtues of outsourcing. Someone has to bear the overheads associated with the act of publishing. It doesn't matter who - it just matters that it be done efficiently and professionally and hence profitably.

Publishers cannot go it alone, bypassing retailers and libraries - not for the vast array of product anyway. They will simply incur massive additional overhead in-house, lose focus, and eventually lose market share.

Libraries will continue to be vital partners in the information chain. It is simply impossible for me to imagine how the vast array of functions that a good library performs as a hub of the community or campus could be absorbed by publishers themselves. The diverse ways in which people access information and literature for the huge variety of purposes that matter to them can only be accommodated by a vigorous and well-funded library system.

This is not to say that there can't or won't be developments in the way libraries relate to their clients and to their suppliers. In my view libraries have to become much more flexible in the way they think about providing information services. I would like to see a greater willingness to partner with publishers in exploring new access and distribution models for digital information for example. Why can't we adopt transaction models of payment rather than simply purchase or subscription models? This would mean paying royalties to copyright owners on certain types of products for various types of uses, other than reasonably defined fair uses.

Why must librarians continually baulk at the notion of user pays? They charge for many services but not for the information itself. Can this sacred cow survive in the digital age? It is highly unlikely that libraries will continue to be funded sufficiently out of the public purse for all the services they need to perform in today's complex information environment.

For libraries to recover their own costs and overheads, and the costs of their supplies, from their own clients, according to the value of their services, and in competition with other providers, will require a major cultural change, but hardly more major than that being faced by other players in the information chain.

We are all struggling to re-define ourselves in these revolutionary times. I think W.B. Yeats captured the anxiety and promise of the times in the final lines of his poem 'The Second Coming':

'And what rough beast, its hour come round at last,

Slouches towards Bethlehem to be born?'

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Proceedings

Keeping the Elderly Young - Adult Education Today

Dr Bill Donovan

Last year was the year of the older person and I became unofficially a senior citizen. I wonder how many of you are in the same boat? I wonder also what long-term impact the year had on our perceptions of the elderly? When my wife wanted to get me a senior citizens card when I turned 60 they wouldn't give her one because I was still in full time work. Ironically you can take a redundancy package, become a highly paid consultant and still get your senior's card. I now have a senior citizen's card. Feeling elderly is all in the mind. However, just ask a 16 year old and they call anyone over 30 old and anyone over 50 is getting on for senility. But don't you feel young inside and get a shock when anyone calls you old? I suspect I'll feel the same at 80.

I am one of those people that formed the initial stages of a trend to have multiple careers and see 'retirement' as just another of those careers. I have had careers as a research scientist, University lecturer in Chemistry, Education Bureaucrat, Senior College Principal and Director of Continuing Education at the ANU. All this has to be prepared for and to be educated for. I started changing careers 30 years ago and was in formal, part time education until my late 40's and continually involved in self- education on a variety of fronts. This has included lately learning bridge and bowls and re-entering tennis and gardening as optional extras for retirement. To this is added learning about the GST and being a tax collector for the government in this my latest phase as a private consultant.

But what of everybody out there or indeed of many of you in this room - if not an older person certainly trending that way?

Older people, as an increasing proportion of society, are playing an increasingly important role as carers, and volunteer workers in community organisations. In retirement they travel and move around Australia in camper vans and caravans contributing in a major way to tourism. They keep the financial adviser business afloat. They often financially support their own parents, their children and often their grandchildren. They write letters to newspapers, they are increasingly the vast majority of Church attendees, they run charity organisations and they are involved in an incredible range of recreation and sports. On the flip side of this coin older persons are being asked to work longer in the interests of the nation.

Learning needs of this third age thus include appropriate training for these new roles, as well as a range of life skills in relation to health, housing, financial management, recreation and so on. Especially as they are more and more reliant on themselves rather than on the extended family. A testament to this is that over 30,000 learners are involved in the University of the Third Age Australia wide. There are now courses in Universities that teach how to teach adults. There are even courses on how to teach elderly adults.

Adult education is big business. And yet in the corporate sense it largely went unauthorised, unrecognised and largely under resourced for most of this century. It was only when the Federal Government commissioned a report called 'Come in Cinderella' in 1991 which outed adult education and confirmed what had been happening that things really began to change. On one side a plethora of programs have sprung up. On the other side we now have a well-defined bureaucracy of adult education with ANTA, the Australian National Training Authority, Vocational Training Authorities in all States and Territories, a national professional association of lifelong learning and here in the ACT an Advisory Board and all the trappings of well defined national and state programs. We have certification and accreditation, we have quality controlled monitoring systems, we have big budgets and we have accountability. The whole business turnover per year would be above 5 billion dollars and perhaps as much as 10 billion. In a small way in the ACT the Centre for Continuing Education at The Australian National University turns over 1.4 million a year. In other words adult education is big business.

What are the other trends in adult education? 'Education itself is going out of fashion. Lifelong learning is the new buzz word. In other words learning rather than teaching. Or so it appears in Tony Blair's England and in Bill Clinton's USA and a lesser extent in Australia. In Britain the Government has set up an Individual Learning Account system where once the adult learner puts up 25 pounds the government puts up 150 pounds that the learner then peddles to the organisation that will take her and provide her with the education she wants. You can bet that the trends of this voucher type system are already evident here and that we, in Australia will eventually follow in that path.

In adult education we are learning a lot about teaching and learning. And it is different to schooling. Parents and parent expectation are often the biggest problem for schooling. What they want for their children are often not what the children need is this rapidly changing society. Teachers still try to teach curriculum (and governments peddle that line) rather than how to learn and teachers still teach subjects rather than teaching people. We are finally beginning to recognise that schools and often Universities are dreadful places for teaching and even in some cases for learning. There are, however, signs of a revolution in teaching and learning. Fortunately many people are going outside the formal education system for their education.

Yet as adults what they (and you) want for themselves is vastly different. They want to learn from a whole range of opportunities and much of these are outside the normal classroom or if in it, to be treated as adults in the teaching/learning methods used. They want choice and diversity in formal and non-formal settings, they want informal learning from a range of experiences and they want incidental learning from what they do. They want to gain credit and/or certification for their life work and informal study. They want educational study tours, anything to do with languages, philosophy and theology, anthropology and archeology, plants, animals and psychology. They want wine tasting, cooking, personal development courses - in short anything self education that is fun, is not too serious, is directly useful to the mind, the heart and the body but above all keeps the brain ticking over. And I have not talked about the on-line world where many older persons are spending a lot of their time and the evidence is that the old and the young are taking to it with great gusto. The IT education needs of the older person are becoming legion.

In the more formal continuing professional development area however, for work purposes, the great demand is for English. Basic grammar, advanced writing skills for managers, correspondence and report writing, ministerial and executive speech writing, writing and editing for the workplace are just some of the courses in demand. There is a subsidiary demand for personal presentation skills, winning the next job, how to handle the media and improved communication skills. Yet this is also the field of human resource development in the public and private sectors (workplace training), vocational education, health education, Aboriginal adult education, Industry Universities, continuing professional development of the professions, the training centres for the unemployed and teaching English to migrants. And there are also many adult learning circles and discussion groups, which form the underground of adult education. Many community groups for example, Rotary, have adult education as a major plank of their charters.

The funny thing is that for governments, adult and continuing education is seen like school education as not about an investment in our people but often about money and the national good in terms of preparing a better workforce. If people want to participate in adult education they have to be prepared to pay for it. Secondary Colleges run it so they can make a profit for their day school and on the side to provide a community service that will help the image of the College. TAFE colleges run it to make money and to utilise their facilities out of hours. Universities run it as outreach activities to their communities but it is at the same time on a user pays system.

What will they pay? In the University of the Third Age

people pay as little as 50 cents per hour; in the highly illegal as far as national competition policy rules are concerned, government subsidised evening secondary college programs you might pay $5 per hour; while in University adult continuing education programs that have to fully recover all costs and pay an overhead you pay at least $12 per hour. In many cases there is now a GST on top of that. In a sense that is one reason why Universities inhabit the top end of the market. Not just on the score of price but courses which brings the intellectual capital of the University to anyone who wants it and is prepared to pay. And enrolments continue to rise every term. For example, over 400 people enroll in adult education courses that are run in conjunction with the School of Art at the ANU.

In Universities all around the world adult and continuing education is all the rage. In the formal sense there are thousands of mature age people enrolled in higher education degrees. But there are many thousands more involved in adult and continuing professional education. On a recent visit to China I was interested to see the Universities literally full and packed on the weekends of adult learners. Many, of course, learning English so they can take over the world but others doing an incredible range of course and projects.

In the USA a surge in continuing education is bringing profits for Universities, and in this day and age it behooves Universities to be involved. Universities in Australia and New Zealand recently formed the Universities Association for Lifelong Learning (ALL). A sign and symbol of developments in continuing education in our tertiary system.

The ANU is considering several issues of adult education. How can it provide for lifelong learning of its graduates? How can it add value to the postgraduate experience. How can it continue to be involved in adult and continuing professional education? I can see a time when there will be a Dean of Lifelong Learning at the ANU, just as there is a Dean of Students and a Dean of Postgraduates. And the elderly will dominate the campuses of Australia.

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Proceedings

Intellectual property: access and protection

David Emery

In 1998/99, on behalf of copyright owners around the world, reproduction rights organisations such as Copyright Agency Limited collected well over $400 million in copying payments generated from more than 30 countries. International activity in this field has never been greater, especially in Western nations.

Collecting societies make a market out of copyright infringement, and we are not going away. Despite the uncertain outcomes of complex and sometimes crude legal action by copyright owners in response to the emergence of digital music programs like Napster, copyright is not becoming obsolete.

There is simply too much at stake.

New technologies place immense pressure on the balance between the interests of copyright users and rightsholders. Digital technology permits copyright works to be copied, transferred, stored, manipulated, and transmitted in ways and on a scale that current legal systems could never have contemplated.

The widespread adoption of new digital media has led to claims that "copyright is dead". I do not believe this is the case. Copyright is a robust system of protection that adapted to new technologies such as the radio, the phonogram and television during the last century. And it will adapt to the Internet, and whatever comes next.

The recent activity in law reform in our region to comply with the TRIPS Agreement indicates that copyright protection is still important in facilitating international trade. As the Attorney-General's Department has stated at this conference, copyright laws should act as "enablers".

However, digital technologies do pose particular problems for copyright in two areas:

- the identification of copyright works and owners; and
- in enforcement of copyright rights.

Only by monitoring the use of their works can creators and publishers of digital information exercise their legal and economic rights to manage consumption and copying of their material. And only by managing the use of their work in this way will the commercial relationship between users and rightsholders flourish on-line, thereby maintaining the incentive to create works of quality and value to the community.

Around the world, methods for digital monitoring of copyright uses are being developed as we speak. These business models are likely to have many advantages, particularly in terms of covering more copyright transactions, and the accuracy of the data that makes intellectual property management possible. Electronic Copyright Management Systems (ECMS) will offer authors and publishers a greater opportunity to identify when and where their works are used and obtain fair payment for the new networked uses of their works where this was not previously possible.

In an analogue - or hard-copy - world, obtaining permissions for copying from books or articles is cumbersome. Just to photocopy a book, it may be necessary to clear rights from the author, the publisher, and the artist or photographers of any included artistic works.

Digital technology magnifies this issue because of the re-use of existing works in many digital products. For example, one recent Australian multi-media project required 6000 permissions from copyright owners - it was abandoned after substantial investment due to the time and cost involved in negotiating all of the necessary permissions.

Authors and publishers must ensure that there is a practical and cost-effective means of seeking copying permission as quickly as the work can be transmitted or copied - this has to be done automatically, probably through the use of metadata.

It can be difficult or impossible to identify a particular work when that work is combined with a number of others in a multimedia product. It is a very simple exercise to copy text from one source - whether it be scanned from print to digital or copied from file to file etc. and to (deliberately or inadvertently) omit details identifying the rightsholder.

Digital technologies facilitate consumer "sampling" of copyright works, typically the taking of excerpts from a variety of sources, regardless of the medium. Readers no longer always want a whole book: they want a chapter or a page or a photo. It is also difficult to prove definitively that one digital copy has come from another - format and content can be altered easily to avoid detection. These are all protection issues.

Without identification details such as metadata, the rightsholder quickly loses control over the use of the work. It is easily copied - or manipulated - and distributed, unattributed and unpaid.

Negotiating terms and conditions for the use of any particular digital work can be difficult in an environment where the future use of that work is uncertain. The uncertainty can range from the number of future "hits" on a work to the uncertainty surrounding "repurposing" uses which are not addressed in licensing agreements.

Many rightsholders are now justifiably wary about the rights that they licence, in what manner and for what price.

Electronic monitoring of copyright uses will provide rights owners with valuable data on usage of their works. This data will assist rightsholders in setting appropriate terms and conditions for use ranging from pay-per-view to free use.

It is difficult to control the distribution and transmission of material in a digital environment. In the past, there was an inherently limited distribution of copyright works due to the static physical nature of the print medium and limited availability of expensive reproduction technology. Now, a single work or a libraries' entire collection can be cheaply distributed around the world instantly, without loss of quality and without losing the original.

The ease of distribution (together with technical and financial pressures) has allowed libraries to transform themselves from archives to information brokers. It has also allowed the mushrooming of paper and digital document delivery services.

Even if copyright owners are able to identify their work - and manage access to it through the use of an ECMS -- rightsholders will still not place valuable copyright work on a digital network unless they can ensure that:

- safeguards have been implemented to reduce the risk of infringement of copyright to a commercially acceptable level; and
- subsequent use of that copyright work can be monitored and payment for that use made.

Copyright owners will not participate in the trading of rights on the Internet if they are not able to enforce their rights.

For this reason, rightsowners are investing in all kinds "technological protection" - ranging from encryption, to read only access, to password protection and many more options.

I do not propose here to discuss these initiatives - merely to comment that they are an essential part of any market for the supply of copyright works on the Internet.

However, the existence of such devices raises questions for governments - nationally and internationally.

These issues range from security of government-held data to ensuring fair access to copyright works. There are also considerations of how to facilitate access to copyright works for public policy reasons, such as education and news reporting.

Copyright owners are increasingly relying on a combination of technological measures and legislative amendments to protect their digital work from unauthorised use, while users are pressing for wider legal exceptions to override technological security. Their purpose is to ensure some level of "public interest" access to copyright works, motivated by their concerns that copyright owners will lock up their works entirely if these exceptions are not available.

Here is the nub of the protection and access debate.

Whether the use of protective devices, and legislation against unauthorised circumvention of such devices, will be effective is yet to be seen. Many commentators still see the Internet as some kind of wild west, and doubt that systems for regulating the use of copyright material will be effective.

But systems have been developed for enforcing copyright on the Internet. An obvious example is the new system for registering and arbitrating ownership of domain names, through ICANN and WIPO. Elsewhere, the banking and travel industries have demonstrated high levels of security in the way they manage confidential online information.

Some believe that the future of copyright is bleak. The form in which we create and transmit information is increasingly fluid and no longer confined to tangible media like paper, vinyl and celluloid. So it is difficult to apply traditional methods of copyright protection and administration to digital media.

Still, much of this scepticism refers to delays in reforming the legal framework in which we currently operate, and fails to take account of viable technological solutions.

If technology can provide a cost-effective means of protecting digital material there will be fewer losses through unauthorised use, and a rational market should react by lowering the unit cost of access to original on-line works.

The Australian Consumers Association correctly told this conference that, far from overtaking copyright, technology has the potential to create a protection regime that copyright owners have only dreamed about.

Which brings us back to the question of access and the public interest dimensions of the copyright debate.

I want to focus now on the politics of the copyright debate, and the necessary relationship between collecting societies and libraries.

I have spent the last two years as an advocate for the rights of the many thousands of authors and publishers who are members, of CAL as part of the process of reforming Australian copyright law via what was known as the Digital Agenda Bill.

If the long debate over access and protection has taught me anything, it is that both users and creators have been poorly served by the costly and combative process of pitching our respective views to policy-makers. I do not believe Australian copyright law is as good as it could be. This is not the fault of the Government. It has played the role of facilitator and arbiter, as it should.

Nor is it the fault of the politicians. Copyright is not a partisan issue; it's a public policy issue. It seems to me to be madness that users and creators should engage in a pitched battle over such an important matter. Users and creators cannot live without one another, and indeed are natural allies in my view. But we no longer behave that way, to our collective disadvantage.

I believe this mode of action has outlived its usefulness, and I am calling for a co-operative debate as we move towards the next review of copyright law.

In my view, we have in a sense become victims of the ascendancy of economic rationalism across all governments. There are some basic truths as to why we find ourselves combatants in the eternal debate over access and protection that we need to revisit if we are to create a new relationship.

Like many key public institutions, libraries have had their public funding successively reduced over the years as governments strive for accountability and efficiency. And like other public institutions, the reaction is two-fold; cost cutting on one hand and an increase in revenue raising or cost-recovery activities on the other. And while efficiency is an admirable goal, in a world ruled by the balance sheet items like copyright fees are too easily portrayed as just another outgoing to be reduced.

A debate that should be about our intellectual future, about gaining the greatest benefit from our intellectual efforts, is reduced to arguments about cost and administrative burdens. I agree with Tom Cochrane's comment to delegates that fundamental values have not played a great enough part in this debate.

If we are serious about our regard for the public interest, then I believe we can do more for the groups and individuals we represent by taking a more co-operative approach to the crucial issues of access and protection. In the end it is we who determine how copyright law is structured. It is our compromises, or lack of compromise, that affect creators and owners of intellectual property, that affect the daily work of librarians and the ways in which we all use information.

I am not naive enough to imagine that we can resolve our differences completely, but the Digital Agenda debate has convinced me that we not serving our constituencies to the best of our abilities.

We should be using our collective power to shape public policy on access and protection in a more productive manner.

Vast resources have been devoted to mounting political campaigns to protect our entrenched positions on access and protection. I propose that, as a start, we divert these resources to researching:

- how copyright information is handled by libraries and information services,
- what the true levels of copying are,
- what information is used for,
- what uses should be remunerable, and at what rates; and
- what material should be free.

As a collecting society, CAL is looking at new and better methods of determining what is copied and how licence fees can be distributed. We would also like to work closely with the library and information sector to define and develop new ways of balancing protection and access.

I am issuing a challenge to both sides of this debate to work together before approaching the government on access and protection issues in the coming review of copyright legislation. And I'm offering a commitment from our side of the argument to engage constructively in the process.

Over the course of the Digital Agenda debate, the constant cry was for that of "certainty". Certainty in the law, in process and in rights. What events such as this conference show us is that certainty is probably the one thing we are not going to find in our struggle to resolve the tensions of access and protection.

Now, more than ever in the history of copyright, is the time we should be working together, sharing resources and developing better solutions. We are the best resource of certainty there is.

We owe it to ourselves to examine some of the premises underlying our attachment to our positions in the print environment, especially since the balance we have supposedly achieved may in truth be more like a stalemate. Let's look at "free copying" provisions as an example.

The escalation in journal prices illustrates the point: users believe publishers charge a price that reflects what publishers *think* they are losing, because users make copies under fair dealing and library provisions. Users cancel subscriptions and make more copies because they cannot afford the journals, then publishers charge more because they perceive that these copies are further displacing subscriptions.

If we don't stop to take another look at this situation, we will only perpetuate a system that frustrates all parties well into the 21st century.

Free copying isn't free. We tend to think that such provisions in the legislation protect us from price escalations; we think they balance the rights of users and owners by providing us free access to the ideas contained in protected works.

In truth, access is getting more expensive and our libraries are spending more money on fewer titles. There is an enormous cost associated with "free" access if one considers the prices for books and journal subscriptions and adds to that the actual costs of making a copy.

Think about a typical copying activity, for example reproducing a journal article in a library. If you include *all* the costs, the time away from other work (lost productivity), transportation costs, the money going into the copy machine, the paper, the people the library has to hire to tend to all the consumables associated with copying, and then imagine the millions of copies made around Australia every day, you may begin to appreciate the enormity of the resources that go into making "free" copies.

Or let's examine the assumption that access provisions in our laws help to contain costs - because as library budgets continue to shrink and the price of information continues to escalate, there will remain an urgent need to contain costs in any manner possible. So long as library access provisions and fair dealing are believed to save money, users will not be willing to consider alternatives.

Cost savings are presumed to flow from the exercise of access rights as protection against unreasonable escalations in the price of access to information. But what if price escalations may in fact be *caused by users' reliance upon access rights* rather than the other way around?

Alternatively, from the copyright owner's perspective, what if the benefit from the right to charge ever-higher prices for books and periodicals is counterproductive? There is only so much money in the information community and the more that goes to high-priced journals, the less goes to books, and the more a book costs, the fewer are purchased.

If both owners and users could be mistaken regarding the extent to which their rights provide them with power to control events, then we should at least be willing to discuss ways of making copyright law work more efficiently, rather than funding our battles.

As long as either party to negotiations focuses on non-negotiable demands and reserves the right to be unreasonable, the other party will not be willing to give up its similar non-negotiable demands or its right to be unreasonable, and we'll get nowhere.

Endless escalation in prices will be met by more extensive reliance upon access rights and other legal exceptions; spiralling technological controls to prevent access will be met by equally sophisticated countermeasures by users. Do we really want to keep going in this direction?

Advocates for access and protection are not locked into an adversarial relationship. There are options. Although no option is particularly easy or attractive because all involve rather fundamental changes in our perspectives on the problems, the electronic environment does offer us an opportunity to step back and take a different view.

At a minimum, we have to acknowledge that *we do not need to be adversaries* -- that we are in fact different pieces in the same puzzle. We are the different elements in an equation. We are both necessary and important to any solution. We can work together in ways that enlarge the return to all of us, not just financially, but in terms of the creation of knowledge and education. We can recognise that our powers should not be used to bludgeon each other, but to support and encourage each other.

We can verify right now where being adversarial has led: litigation. And we can reasonably predict that if we carry on fighting about the electronic environment we will still be doing battle in the Copyright Tribunal, accompanied by a renewed and more extravagant waste of resources. Or, alternatively, we could decide not to be adversaries.

I endorse Phillip Blackwell's remark to delegates that "a partnership may be the way forward", and agreed with Sir Anthony Mason when he told the conference that "there are different approaches". Approaching the way forward needs to be thought about long and hard.

This is the challenge. We have three years until the Government reviews the amended Act. Our time starts now.

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ALIA 2000

Proceedings

Infrastructure and convergence issues

Stewart Fist

Content is the problem, not convergence

Debates about Internet, Education and the Information Age generally centre on technical issues like the need for bandwidth, and the technical, political and economic problems associated with convergence.

We are locked in battle over the definition of datacasting? We are arguing over which media mogul will own digital TV and associated information services?

The technical and business sections of our newspapers are full of promotions about how much companies will pay for the 3G mobile phone spectrum, and about the wonders of WAP - which allow you to surf the Internet for the latest in shareprices while wandering down George Street.

And there's the over-riding question, Can independent ISPs -- or indeed any competitor in any of its myriad of service businesses -- survive against Telstra?

Currently we are spending most of our time arguing about such matters, and very little looking at problems of content. We know that very shortly we could have technical access to at least a couple of hundred video channels and a couple of thousand datacasting channels -- but what will they be carrying?

We increasingly see Internet content sites becoming dominated by commercial considerations? And we know that while trustworthiness, was never a term used much in connection with Internet information, it applies even less today than it did previously.

Then there's the eternal question of broadband. We seem to have pinned all our hopes and dreams on getting this flood of interactive information delivered ... on demand ... instantly down the line from any place in the world.

But is more -- and quicker -- better?

These are the central questions of Infrastructure and convergence. And I really only have time to deal with a couple of the technical aspect.

Convergence is a convenient term because it means different things to different people. And multi-definitonal terms like this always take center-stage in any community debate because they can be thown in to any discussion, willy-nilly, and no one can effectively dispute or challenge your claims.

Of course digital transmission means convergence in one sense.

Analog transmission also meant convergence. The old ideas of the record player and of the film projector, converged with morse-code radio telegraphy and we ended up with radio and television.

That is the way technical evolution works. So in this sense convergence claims are virtually meaningless -- they just signal general community ignorance about technical evolution.

If you mean by the term "convergence", that all information (voice, text, data, video, etc) will be transmitted, stored and processed using digital techniques, then the anwer is bleeding obvious:

Of course it will.

It is also ... So What?

If you mean by convergence, will all this data flow down the same pipe, and be handled by a single monolithic global network evolving from the Internet? Or be displayed by a single electronic device in the home.

The answer is no. That makes no sense. I don't want my family reading my e-mail on the TV, and nor do I want to be totally dependent on a single glass fibre.

We don't use one single street pipeline system for gas, household water and fire-fighting. We install (at much greater costs that copper wire, fibre or coaxial) separate piping systems designed for individual requirements.

And this approach makes sense with information flows also.

- Telephone twisted pair are best for low quality voice and interactive links:
- coaxial and fibre connects and terrestrial transmissions are probably best for one-way video.
- Data falls in between, being best on one system for some applications, and best on the other for others. Mainly because the term datacasting covers sound and video , interactive and one-way exchanges, also.

If you mean by 'convergence' (as many technical people mean): Will all transmissions of information for whatever end-use, utilise the same standard network protocols - I've got to ask: Which standard protocols do you mean?

At the base of the telephone network, global carriage of bits is evolving to use a standard called ATM, and that standard is equally suited for switched voice-circuits, and packet-switched type Internet services.

So it probably makes sense to use ATM as a single low-level digital technique -- eventually. But the cost of universal coversion only makes sense when the carriers can benefit from the flexible multiplexing and redirection that ATM provides. And that is a few years down the track, so the introduction of ATM will be an evolutionary process, and you won't notice. In fact, it is happening already.

If you mean by the protocol question: Will the higher level Internet protocols like TCP and IP, using servers and routers, take over the role of the circuit-switches in Australia's telephone exchange?

My guess is NO. Telephone networks are designed to handle continuous voice for conversational-type interactivity, while the Internet has latency problems and so is best suited to data and slightly delayed streaming media.

The sensible approach is horses for courses.

Despite what you constantly read, packet techniques are not inherently more efficient, or cheaper, or better than existing circuit techniques. Highly compressed Voice over IP only makes sense when bandwidth is overcharged or severely limited.

Telstra's overcharging is what makes VoIP seem attractive, but on the capacity question, currently most of Australia's intercapital links have potential in-the-ground capacity between 100 and 1000 times the amount we can currently use.

It is ridiculous for a nation which has such excess capacity to be contemplating such technologies -- and this only comes about because of Telstra's part-privatisation and economic intransigence.

This brings me to the other problem I see, which is our emphasis on broadband. It diverts us from the real problems of content and efficient national use of existing plant and existing technologies -- we have our eyes on some mythical distant horizon (a crystal city), when we should be looking at the unused services and technologies at our feet.

Everyone constantly talks about the need for Australia to develop broadband networks. We have convinced ourselves that we are sadly lacking in capacity -- in our wires, and cables, and in our radio spectrum.

That is all rubbish. There is no such thing as bandwidth scarcity today in Australia. Unless you are a customer, of course.

- What there is, is the non-provision of existing cable networks -- so that hundreds of optical fibres lie idle or are only partly used.
- Then there are good old digital techniques like ISDN which should be universal on our access links today, but which are held back so the carriers can avoid canibilising the profitability of other services (like renting you two twisted pair, when really only one is needed).

In radio terms, 9 million cellphone users currently share about 0.1 percent of the available desirable radio spectrum. And that tiny fraction of a percent of the spectrum they use is capable of carrying perhaps five to ten times this load with existing techniques.

In cities like Sydney and Melbourne where large populations and concentrated living do put pressure on some parts of the allocated spectrum -- we run dual coaxial cable networks through our streets, then do everything we can to discourage people from connecting up -- and so freeing up the spectrum for more efficient and effective use.

If governments looked on street cable, as utilities or common facilities, instead of as profitable ventures (and I mean all three political parties - not just the Liberals) then we could design systems that would open the doors to extraordinary new uses of information technology.

Spectrum scarcity around the world is manufactured now by a cooincidence of interests between media proprietors and politicians, in order to restrict competition, and generate funds from spectrum auctions -- which is a covert way of taxing future usage?

The last remaining link is the local loop, or the access lines down the streets.

The popular myth is that this is the bottleneck of data communications, and so people constantly talk about the need to introduce broadband links -- most specifically the use of cable modems on the Pay TV network, and ADSL on Telstra's twisted pair.

Of course these technologies will improve the speed of access to the Internet, but often not for the reasons most people imagine -- and not without cost, both in terms of money cost, and cross-talk and interference costs which the rest of the users have to bear.

You've got to look at the links in the Internet data chain -- and each has different delay and capacity characteristics -- and so each varies according to the source and type of information being delivered.

I am currently downloading a lot of big (1MB) pdf files from an American legal database, and my delay problems stem from sluggishness in the American host, sluggish and overwritten browser software in my Mac, and an ISP who hasn't updated his servers for about four years, I would guess.

The Internet itself, on my estimation, is only responsible for between 5 and 10% of my delays, and the local loop (running most of the time at less than 30kb/s) is only responsible for one to two percent.

So why in God's name would I benefit much by using a cable modem? At most I'd only save a percent or so of the total accumulated lags going on in the total system.

In fact I had a cable modem on trial recently, and I tried it out against my normal telephone modem -- and the telephone modem was faster.

Actually that was a bit of a cheat, because the telephone modem was on an old Mac, with an older system and an older browswer and and older version of Adobe Acrobat -- and it screamed along, when compared to my new Mac, even though the local ISP is way behind in his server upgrades.

The real problem is that my PowerMac, with 64 Mbytes of memory, is grossly overloaded with a later operating system, which bombs out unless I use the latest version of the Netscape Browser and Latest version of Adobe Acrobat. The Optus cable and the head-end server is much faster -- but this only improves a couple of minor links in the delay chain.

In fact the best solution for me would be ISDN -- and personally, I believe strongly that Australia would get more out of a general move to introduce ISDN at its real low cost, than it will out of ADSL -- for a lot of reasons, I haven't got time to go into here.

ISDN to me is the great unused technical asset of telephone companies around the world. You should be able to get two digital lines -- and the even-more-important ALWAYS ON D-channel -- for the same price as one analog line.

So constant demands for broadband services like ADSL will mean that eventually some people will benefit -- mainly those watching streaming video and listening to streaming audio (both media service done better by radio) -- but little will be gained, at great financial cost, by the majority of us unless we play interactive games.

With our broadband demands we are building up a technical strawman, that Telstra and other carriers will knock down -- at great demolition costs.

The more substantial, and economically useful the requirement for internet access, the less important broadband local access is to the user.

The more frivolous, and the more it is like our existing transmitted TV, radio and cable services -- the more valuable broadband will prove to be.

This of course is a recipe for a new Tragedy of the Commons variation -- where frivolous requirements destroy the more substantial informational usages that the internet once represented.

I would hope eventually that this was solved by excessive bandwidth in the Internet itself, or by the development of parallel but interconnecting networks.

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Proceedings

From pre-shopping to e-shopping: the new online world for consumers

Oliver Freeman

Introduction

Let's step back into the world of Charles Dickens, to *Bleak House* 1 and Chancery Lane, to the derelict world of Tom-all-Alone's and the law stationers run by Mr Krook. No doubt you remember it well! There is so much paper in the shop and every transaction takes so long that eventually Mr Krook spontaneously combusts; literally, goes up in smoke, the unfortunate victim of the equivalent of M. Creosote's 'another wafer-thin mint' in a sea of paper.

Now let's step forward into the world of the Microsoft Reader (Bill-all-Together's!), the newly fledged software package launched from those pearly gates at the Redmond campus near Seattle. If you haven't heard about it, you soon will! Starring the dedicated screen-font, *ClearType* and available at a PC or hand-held device near you, 2 the Microsoft Reader delivers electronic text which you may annotate and bookmark, archive and search - but may not print. 'Who on earth wants to print stuff out? ' Bill Hill of Microsoft's ebooks division asks rhetorically. Good question? Or is it a 'wafer-thin' (sic!) disguise of Microsoft's intention to own 'paper'?

Analogue models, hybrid models and digital models

The two worlds we have just visited are 'pure' in that the analogue law stationer and the digital Reader are mutually exclusive. The world we live in, however, is resolutely hybrid. Comprising this *and* that. Nevertheless, looking at the future requires us to consider 'pure' states if only as a way of better understanding how that hybridity might operate.

So, let's look at the attributes of consumers/ customers in these two worlds. How are they different?

Analogue Tom-all-Alone's	Digital Bill-all-Together's
Site specific	Distributed
Time specific	24 X 7
Many-as-individuals	Individuals-as-many
Physical	Virtual
Dependent	Autonomous
Hierarchical	Networked
Face-to-face	Computer-to-computer
Monopolistic	Monopsonistic
Push	Pull

I trust the paired attributes are self-explanatory. What I'd like to do now is consider some of these differences in more detail.

Push to Pull (from supply to demand)

Supply economics has been the dominant driver of the old economy. We are well used to business-to-business (B2B) and business-to-consumer models (B2C) - one-to-one and one-to-many.

In a networked economy, however, we now have the consumer-to-business (C2B) and the consumer-to-consumer models (C2C) - many-to-one and many-to-many. In the e-shopping world, suppliers service customers who can now directly articulate their demands and thus reverse the supply-thrust we are used to. Goodbye Ombudsmen! Goodbye Alan Fels! Several major companies and organisations in Australia have recently banded together to more efficiently make purchases by acting in unison under the *Corprocure* banner and to better negotiate on terms for purchasing supplies. This is a primitive version of C2B at the big end of town. Look out for smaller business purchasing groups too, like http://www.marketboomer.com

At the small end of town we have that amazing phenomenon in the C2C world being led by http://www.napster.com . As I write, I am listening to a track down-loaded by one of my sons to this hard drive from an anonymous computer somewhere-out-there. He has literally pulled the track down from an 'open' hard drive using the complex structure of computer pipes to steer it to here. As we know the jury is still out on the copyright issues relating to music-sharing communities over the Net. But whatever the judicial interpretation brings, the copyright cat is out of the producer-controlled bag. *Napster* has 35 million members which are being swelled by 2 million more each week. They will not go away. You ain't seen nothing yet.

Dependent to Autonomous (from passive to active)

If the market for music is being subjected to the consumer revolution, then those of other media - in particular books, journals and other texts are not far away. Libraries acting in unison to purchase serials co-operatively are another primitive mediated version of C2B. We are waiting with interest on the potential collaboration among the libraries' customers to dissipate the asymmetrical market power of the scholarly publishers, particularly of peer reviewed journals. The growing consumer autonomy can be glimpsed in the rise of the auction sites on the Net like http://www.ebay.com, http://www.priceline.com and http://www.auctionwatch.com which provide opportunities for demand-led price fixing in real time.

Hierarchical to Networked (from supply chain to value chain)

What *Napster* is telling us is that networked consumers are becoming mega-powerful - Alexander de Tocqueville's 'tyranny of the majority' with the purchasing power of millions! Implicit within this network power is the potential to disintermediate anyone in the supply chain who does not contribute a visible value-add.

There will be no sentiment in this process. Our *nouveaux* shoppers will act together to root out those *vieux* suppliers who think they can skim the fat without making a contribution. Publishers who outsource editorial and/ or design work (their most important value-add) do so at their peril. At *Fatbrain* they have been developing, among a cluster of businesses, the opportunity to enable writers to publish directly on the Net. [3]

To the extent this is a form of vanity publishing, ho! hum! After all, digital rubbish is no less rubbish for being digital. But the key point may be that if professional authors work with professional editors in digital formats, they are removing the value-add element from the traditional publisher role. In Australia, an author-based project http://www.ozauthors.com was launched in June 2000 to provide digital access for authors.

Site-Specific to Distributed (from your place to my place)

This may not seem like a big deal, but the dynamics of shopping are changed considerably when we move from pre-shopping to e-shopping. Among other things, it pretty well does away with the concept of the boutique. Stock density is much more important than quality. The consumer wants the one-stop-shop and will be much less inclined to shop around. In its first stages, this will see a reduction in consumer choice offset by fantastic competition. Networked markets are open and price changes immediately visible. Perish the retailer who fails to respond to variations in terms!

So, for ebook retailers like http://www.ebooks.com, http://www.ebookcity.com and http://www.netlibrary.com the pressure is to amalgamate as many titles as possible, as quickly as possible and to create inducements to encourage rightsholders to come to the licensing party.

Physical to Virtual (from experiencing the product to 'productising' the experience)

There are not many true Internet businesses. Apart from banking, music, etexts, video and games, websites mainly offer physical goods and services. As a consequence a business like http://www.amazon.com is only as good as its supply chain. Wonderful one day and a disaster the next. True end-to-end digital businesses only start to deliver once all the supply chain issues have been bundled up into its e-commerce solutions. Thus the book customer will evaluate ebooks on the basis of the *experience* they provides rather than the astounding miracle that the book order placed yesterday arrived within 48 hours!

This shift is bound up with the lightness of being in a digital world. And it will transform as we develop new products - from design and content to pricing and functionality. [4]

The emphasis will be on continuous innovation, 24X7!

I'd like to finish this short paper with some observations about the consequences of the coming growth in consumer power and the growth in digital 'goods' and networked communications.

Co-evolutionary market development

A great deal has been made of the process by which Amazon, for example, learns about your book buying habits so as to be able to 'predict' which new titles will be of interest to you. This seems like clever stuff but it is almost entirely useless for predicting future behaviour. The future, after all, is not at the end of a trend line. We are as discontinuous in our personal habits as are global economies and climates. Ask any obsessive / compulsive if you don't believe me!

Despite this flaw, the major setback with such intelligent market analysis is that it is incomplete. Amazon does not include in its data, books I have been given, bought elsewhere, borrowed, stolen etc, etc. The intelligence is not that intelligent after all because it is only a one-source supply side intelligence.

The next step for producers / retailers is to promote win-win relationships with their customers by exchanging data that will enable a co-evolutionary approach to market development. We'll tell you all about you, if you tell us the rest of the story. In fact, we'll give you your data. [5]

Inventing the shopping future with Net friends

E-shopping does, of course, do more than deliver stuff over the Net and accumulate interesting data on customers. The Napster experience provides an insight into the reinvention of the shopping experience by bringing together customer-peers in a most powerful way. This alone, is going to transform pre-shopping and turn it into e-shopping.

The economic driver for the change seems to be very clear. All markets operate to provide competition for the profits they create. In a supply-driven old-style economy, suppliers compete for these 'margins'. The notion of 'perfect competition' (which suggest a compelling drive among consumers to find out all they can about market conditions before making purchases) is, of course, economic rationalism's joke.

In the e-shopping world, behold a new group competing for the profits - the customers! Networked together they can exert enormous influence and demand their share of the surplus f rom capitalist production

And remember - spend cash until you crash ... shop until you ... er - stop?

Footnotes

1 You can download a free copy of *Bleak House* from http://www.gutenberg.net

2 The new breed of devices will be with us by the year end. Look out for the new doofer from Rocket ebook, which has been developed by Thompson Electronics.

3 This incurred the wrath of Simon & Schuster in the US who refused to grant a licence to *Fatbrain* to sell Stephen King's *Riding the Bullet* in March this year.

4 Take a look at http://www.doorsofperception.com a design-based network for change.

5 I am indebted to my colleague at Global Business Network Australia, Stuart Henshall, for his work on *The COMsumer Manifesto*. Go to my website http://www.gbnaust.com.au and download the October 2000 issue of *pretext* for more info on this.

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Proceedings

Libraries and Literary Outcomes: A Crucial Intersection in the Cultural Field

Anne Galligan

As mediating cultural institutions the National Library of Australia and the library network across Australia serve as an "elaborate national public memory system" (Burns 44). This national library network is a primary component in the cultural infrastructure that undergirds an Australian information or knowledge commons, a public domain of information. This commons is an active site of exploration and contestation that is added to daily and reinterpreted, playing a fundamental role in the knowledge creation process. Peter Drahos describes the intellectual commons as "an unusual resource in that it grows in strength through exploitation" (Drahos qtd Cottier:3). In a period of social and economic change that is, in many ways, being driven by a globalisation of resources where "information itself is becoming an economic driver" (Wainwright 5), the value of the information commons is increasingly recognised in government policy and reports such as *Grasping New Paradigms: Australia as an Information Society* (1991), *Creative Nation* (1994) and *Navigating the Economy of Knowledge* (1995). It is also threatened by an undermining of the notion of free access to information, a cordoning off of the commons by business interests with the progressive commodification of information and knowledge, and by a general weakening of the traditionally accepted principle of free government services supplied as a public good or 'in the national interest' (Frow 211).

The Australian library network functions as both a storehouse of the national textual estate and a gateway to this information commons, playing the role of mediator in a process of knowledge exchange. A recent report recognises the library as a "vital component of the 'creative infrastructure' which is critical to Australia's future social, economic and cultural development in the knowledge economy" (Mercer 1). As a service institution, it provides the Australian public with "access to much of their intellectual and cultural documentary heritage through publicly funded libraries and archives" (Horton 268). These libraries "have a national mission to maximize the efficient delivery of library and information services to the Australian community" (Cunningham 10). The importance of the library in the literary field is underlined by this active and supportive relationship with writers, researchers and scholars, "an implicit nexus between those who create books and the institutions that look after them" (Thompson 13). Although library policy does not directly influence textual outcomes, the availability of resources and means of access are of great concern to researchers and authors, and have a long-term impact on the nature and content of future scholarly and creative texts. I want to demonstrate the processes of interaction and exchange that are involved in the creation and circulation of literary and scholarly works, texts that contribute to the Australian information commons. For this purpose, I will refer to specific aspects of the scholarly work cycle of Professor Henry Reynolds and also comment on this intersection between the scholar and creative writer and the libraries and archives they explore.

Alternative Histories and Possible Outcomes

The work of the historian Henry Reynolds has reached a diverse audience and the implications of his research findings have been radical and transformative, almost shattering in their continuing unfolding across the Australian public sphere. Reynolds began a journey in 1966 as a young academic in Townsville, a journey of personal and academic rigour across the divides of scholarly research, social action, and political and legal debate. Initially accepting the established boundaries and traditional academic perspectives of his field, Reynolds concentrated his studies on convict and white settler historical discourse. As a teacher of Australian history, however, he was increasingly confronted by his own ignorance of frontier history and race relations between Australia's indigenous people and the white settlers. On a personal level, he was also challenged by immediate situations and experiences in Townsville, "deeply disturbing things" that "didn't fit easily into any of my assumptions about my own society" (Reynolds 1999:47,9). He realised that there was "no material, no analysis, no stories which would enable the community to understand the nature of contemporary relations between white and black Australians" (95).

By early 1970, Reynolds had shifted the focus of his own research "from Tasmania to Queensland, from class to race, from convict and free settlers to Aborigines" (90). He presented his first paper on the subject in the history department at James Cook University in the same year (90, 92). This was followed by six months study leave in England researching Australian history in the Public Records office and the library of the Royal Commonwealth Society which housed "a comprehensive collection of documents from white settler societies" (96). A selection of relevant documents was collated and published in 1972 as *Aborigines and Settlers*. His first article, "Violence, the Aboriginals and the Australian Historian", was published in the literary journal *Meanjin* in December 1972. These publications helped to open a space for further research and Reynolds received his first major research grant.

Initial explorations of the archives of North Queensland by Reynolds and his researcher/ student-in-arms, Noel Loos, included reading documents, diaries and reminiscences left by pastoralists, sugar planters, officials and travellers" (99-100). They covered Government Gazettes, magistrates' reports, inquest files; official records where he found surprisingly "frank and open discussion" of frontier conflict (118). Over an extended period, Reynolds read more than fifty colonial newspapers, "every frontier newspaper that had survived, wherever it was or whatever its condition - in the basement of city libraries, in rural council chambers and newspaper offices" (119). The Queensland papers of the 19th century included the *Queenslander*, the *Townsville Herald, Rockhampton Bulletin* and *Moreton Bay Free Press, Peak Downs Telegram, Cooktown Courier, Torres Strait Pilot,* the *Hodgkinson Mining News* and the *Ravenswood Miner* (Reynolds 1990:263). He described these newspapers as "the most revealing and most copious source of material" (Reynolds 1999:119). The material Reynolds amassed told a strong story as "the evidence pushed me inch by inch towards a quite different story from the one I had grown up and celebrated in my first serious work of research" (129).

Later research forays to England covered the British House of Commons Sessional Papers of the 19th century, records of the London Missionary Society, missionary journals and newsletters, and papers from the Anti-Slavery Society of the British Empire held at Rhodes House Oxford (Reynolds 1990:262-3). As the scope of this work expanded Reynolds examined the Parliamentary papers and proceedings from all the Australian states, official manuscripts from all the State Archives Offices, Native Police Papers and Magistrates reports, company records, pictorial collections, explorers' diaries and the diaries and letters of Colonial Secretaries, "Government Residents" and various officials such as the 'Protector' or 'Travelling Inspector' of the Aborigines (255-63). In collaboration with Noel Loos and Eddie Mabo, he initiated oral history interviews with the Aboriginal and Islander families of North Queensland, recognising that "indigenous people had their own informal, oral, dissident history of European settlement" (Reynolds 1999:100).

Throughout the 1970s and 1980s other research on Aboriginal history, regional histories and broader indigenous issues was released into the information commons in the form of books, theses, articles in scholarly journals and conference papers. This work, by scholars such as John Mulvaney, Raymond Evans, Kay Saunders, Kathryn Cronin, Kevin Gilbert, Noel Loos, Peter Read, Ann Curthoys and Bain Attwood served to stimulate debate and initiate further research projects. As one academic stated simply in a survey of scholarly publishing and academic attitudes conducted in 1995, "scholarship builds on scholarship" (qtd Sullivan 41). This process of circulation of ideas, information, new narratives and new knowledges invites the critical appraisal of all sectors of the community. It often provokes heated debate, as indeed, Reynolds' work has done. However, these debates should be recognised as an essential part of that "continuous and unsparing evaluation and criticism of scholarship" (42), where researchers determine whether to "carry those results further or to refute them by more careful or imaginative research" (Pelikan qtd Sullivan 42).

Through the 1980s and 1990s, the field of research expanded again as "The whole native title process [drew] historians into its quasi-judicial machinery" (Reynolds 2000:2). Confronted this time by a lack of expertise in "law and the many legal issues which underlay the whole Colonial venture" (Reynolds 1999:193), Reynolds found himself immersed in the history of international law, imperial and Commonwealth law and the jurisprudence of other common-law settler societies such as New Zealand, Canada and the United States (194). American Supreme Court judgements of the 1820s and 1830s became immensely important to this Australian history scholar as he realised that the whole doctrine of white settler discovery and Indian native title was argued in the American courts in this period (196).

Perhaps one of the most important moments for Reynolds came after "hours of fruitless reading" of "microfilm copies of handwritten Colonial Office records from the 1830s" (198). He had found the minute books of the South Australian Colonisation Commission covering negotiations for final approval for settlement in 1836 with the Secretary of State for the Colonies, Lord Glenelg. Renolds recalls that:

> Suddenly I saw an entry that totally startled me. ... It was what I had been looking for, what I had thought should be there somewhere in the records. It was like discovering a nugget of gold. (199)

This document confirmed that the Colonial Office, "the centre of empire", regarded the Aborigines as landowners and that "the colonists were required by law to purchase the land" (199). The research process had unearthed a piece of evidence which had the potential to "dramatically change the interpretation of both colonial history and jurisprudence" (198). The unfolding legal judgements surrounding the Mabo High Court decision and ongoing Aboriginal land claims testify to the critical nature of this form of historical documentation, and to interpretations of the original intentions of government and legal decisions of the 19th century. This interaction across the disciplinary borders of history and law is not surprising because, as Goodall observes, "The law is deeply engaged with history, both in theory and practice: in its appeal to precedent and often to antiquity" (Goodall 107-8). However, the implications for contemporary Australian society in its political, legal and broader community interactions are complex and ongoing.

Critical intersections

Obviously the historical resources that were uncovered and examined in this process of reclamation and critical debate are expensive items to house and curate from the librarian's point of view. However, the value of these dispersed collections is immeasurable to the researcher, enabling a re-release of information into the public sphere at a different historical moment. Historian Humphrey McQueen refers to this painstaking process of "tracking down an original source" as "a pedantry which distinguishes scholars" (McQueen 55). Lucy Frost, whose work crosses the boundaries of literature and history, reclaiming women's narratives (previously unpublished letters, diaries and manuscripts) from the archival store, refers to this operation more romantically as "sleuthing in the archives" (Frost 2000). However, the work itself is far from romantic according to Frost:

> I have never entered an Archives Office which looks like a friendly place, or a place of story. As a built environment, they are spaces which say, go away. - The color spectrum I associate with the interior design for archival deposits runs from muddy brown to black. - Microfiche are not colorful. (2000)

Nevertheless, these travels through the archives and libraries, for Reynolds and many other scholars, slowly opened up "avenues of understanding" of Aboriginal and settler history (Reynolds 1999:99). As Attwood puts it, these historians assumed "the function of 'remembrancers' by reminding White Australia of what it would prefer to forget" (Attwood xv). The historical detail uncovered over this particular period built a picture of Australian history from a different perspective, 'counter-memories' that are both controversial and intensely political.

For Reynolds, what had begun as an earnest search to address a lack of knowledge became a professional commitment to fill in dark gaps in the narrative of Australian history. As the research progressed, the size of the audience reached by this work slowly grew. The nature of the publics involved in the widening scope of this program and its implications across Australian social, political and legal life also changed. Initially confined within the comparative shelter of academic networks, Reynolds acknowledged that if he had "spoken out about these things in pubs and clubs around the north, rather than writing earnestly often in academic journals and serious books, I would have ended up on my back many times over " (Reynolds 1999:123). However, the forum for debate expanded to include regional and national newspapers, radio talk shows, public forums, writers' festivals, international conferences and the private briefing rooms of barristers and Queen's Counsels. What began as a cross examination by academics and historians, was eventually cross examined and arduously tested by barristers, Queen's Counsels and judges of the High Court.

It could be argued that the work of Henry Reynolds presents an exceptional case. However, I want to emphasise the conflation of academic, cultural, social and political spheres that provided the environment for this journey that contributed to a re-mapping of the Australia historical landscape that is still being challenged and tested. There was a crossing of fields of research, of academic networks and scholarly infrastructure. Resources were drawn from national and international networks of libraries and archives, and the results of this work released through a variety of speaking and publishing outcomes. This intersection of scholarly and public spheres does create a valuable example of the work cycle of a professional academic. It demonstrates that part of the professional commitment of the Australian academic community (confirmed by the 1995 survey), to "conduct research of social relevance and to publish the results", a "commitment to transfer of knowledge for the benefit of society" (Sullivan 42).

Critical institutions

As a cultural institution, the library stands within the community "as a symbol of the importance of knowledge and learning" (Awcock 7), playing an understated but pivotal role in the knowledge-creation process. The national library network remains situated as "the principal providers of information infrastructure to the research community" of Australia (McLean 40). Despite government statements of commitment to developing Australia as an information society or knowledge economy, however, this network of cultural and educational institutions has never been securely positioned, but has operated from a "fragile and often threatened position" in state and national government public services (Galligan 109). It is an infrastructure that has been slowly and painstakingly built and often only marginally maintained. It is a vital structural element in the nation's heritage and a key component of the national and international information commons.

A collaborative investigation by the Australian Research Libraries Fighting Fund has stated that "Australia's information future was increasingly at risk because of market forces associated with the globalisation of information infrastructure (Richardson 40). Another survey released in 1999, *Looking for Books* compiled by Leon Cantrell, "points to serious defects in the management and funding of this crucial aspect of research infrastructure" (Roe 5). Approximately fifty percent of respondents in this survey indicated that their libraries were inadequate for teaching and research purposes beyond undergraduate level. There were additional limitations for academics working in new or highly specialised fields, or located at regional universities (Cantrell 18).

Funding for Australian libraries has not kept pace with "the unrelenting increases in the costs and volume of the world's publishing output" (Reed-Scott xxviii). Rather than an expanding scenario, an examination of the 'financially challenged' world of academic libraries shows substantial funding reductions in collection development across these institutions, "an overall downward trend" (Flesch 85). This reduction in funding allocation has been exacerbated by the steadily declining purchasing power of the Australian dollar since the mid-80s. The impact of each currency devaluation on library collections is simple and direct. "A drop of five percent in the exchange rate [leaves] one journal in every twenty without funding" (McQueen 56). In announcing large-scale cancellations of subscriptions and a shrinking acquisition budget at the National Library of Australia (NLA), this premier library justified the decision (in part) by claiming that other Australian libraries have greatly expanded their collections and that "access to these collections has improved" (NLA 2). One commentator expressed dismay, stating that these libraries have the expectation that the National Library will "pick up their slack" after a difficult period of decreasing acquisition capabilities (McCalman 1996:A13).

At the same time, the national library network is required to provide access to an exponentially increasing volume of information, in more formats, and using increasingly sophisticated electronic services. Technological alternatives are promoted to compensate for fewer materials on the shelves and fewer staff. While electronic resources undoubtedly create a richer and more diversified information environment, technology cannot provide all the answers. Neil McLean, librarian at Macquarie University explains that, "The introduction of parallel print and electronic versions of the same journal has not helped resolve the problems of cost to libraries who find themselves having to pay more, not less, for the information" (McLean 40). Although a high proportion of print based journals are now available in electronic databases there are important gaps because not all articles in each issue make the transition to the electronic version. Often only the key articles by known authors are selected. In addition, these versions do not include book reviews, letters to the editor or forum discussions which are often an essential resource for the research community, especially PhD students investigating that cutting edge topic.

It is also apparent that for libraries, issues of ownership and access have not been solved by this shift to electronic resources, but are in fact becoming more critical as the information commons is increasingly privatised. In this transitional period where "real power is increasingly associated with information" (Bloch & Hesse 2), there is what Eric Wainwright refers to as the "mainstreaming of information" (Wainwright 5), where publishers and information providers are reassessing their publishing policies and redefining strategic assets, amassing banks of copyrightable material. These shifts in the international information environment are dramatically "altering the economics of acquiring global resources" (Reed-Scott xviii). While increased competition in the online environment may serve to lower costs of acquiring intellectual property, concern has been expressed that the multinational conglomerates will adopt a policy of "ruthless monopolistic pricing of print and Internet information provision" (Steele qtd Juddery 4). These complex factors combine to restrict the development of that national resource base that is the Australian information commons and will inevitably effect the process of knowledge creation.

Conclusion

The gradual expansion of the sphere of study conducted by Henry Reynolds involved significant shifts in resource requirements across national and international libraries and archives. The function of this paper has been to demonstrate the symbiotic and enabling nature of this relationship between the scholar and the library as a public service institution. Kaye Gapen states in *Virtual Libraries* that the "mission of the library is actually the social and intellectual responsibility of the librarian to participate with our publics in the solution of problems and the creation of new knowledge" (Gapen 5,6). This partnership between librarians and researchers is, according to McLean, "an essential element in the struggle for survival" in an environment that is being "restructured by the irresistible forces of information technology" and the "apparent economic rationalism that informs much of the debate on the global knowledge economy" (40).

This paper also highlights the implications and outworkings of this process of knowledge creation in terms of completed textual outcomes, intellectual and public debate, social action and legislation. This is how the information commons can work. There is a system of exchange other than that of the marketplace. There is a legitimate value system beyond the realm of the economic field and its associated cost analysis. In expressing her concern over depleting library resources, the outsourcing of archival functions and the "improper" disposal of valuable files and public records, Professor Jill Roe observed that:

> No doubt the research libraries of the 21st century will be different, but they still have to be chocked full of real sources. "New narratives" will emerge only if libraries are sufficiently well funded to collect and preserve the materials which are increasingly diverse, on which those narratives can be based. (5)

This is one way Australia can capitalise on the knowledge base of its intellectuals and scholars, creative authors, educators and research students. It is in the national interest.

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Provider Roles: the Information creator and the roles of the Information professions

presented at ALIA 2000 Conference, Canberra, Australia, October 26, 2000

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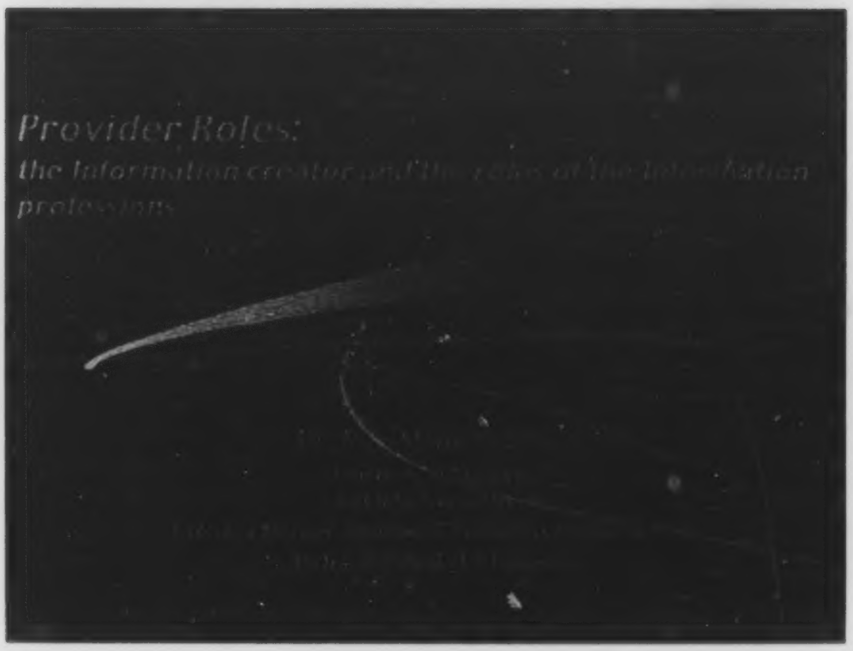

Provider Roles:
the information creator and the roles of the information professions

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Good afternoon. I am pleased to have an opportunity to begin the day's discussions with some thoughts on Provider Roles: the information creator and the role of the information professions.

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Integration

Research

Education

Practice

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While many may see these activities as separate, I've tried to link the research, education and practice areas together. And as we face the new challenges of the ever-expanding "information age" I believe there will be ever greater demands on those in our profession to be the bridges, the integrator of the multi-faceted endeavors that blur the lines between research, education and practice.

Comments or Questions?

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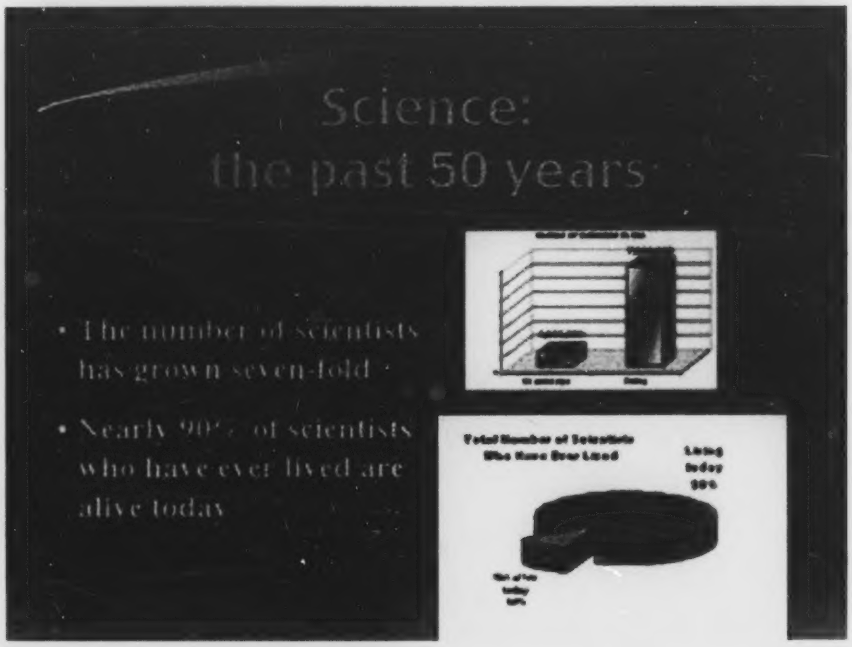

Science: the past 50 years

- The number of scientists has grown seven-fold
- Nearly 90% of scientists who have ever lived are alive today

Total Number of Scientists Who Have Ever Lived
Living today 90%

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As we are beginning a new century it seems an appropriate time to look back at past achievements; and, with the approach of the next millenium, an opportunity to look forward.

Science, for example, has experienced tremendous change over the past 50 years:

- the number of scientists has grow seven-fold (from 1 to 7 million in the U.S.)
- nearly 90% of scientists who have ever lived, are alive today

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Comments or Questions?

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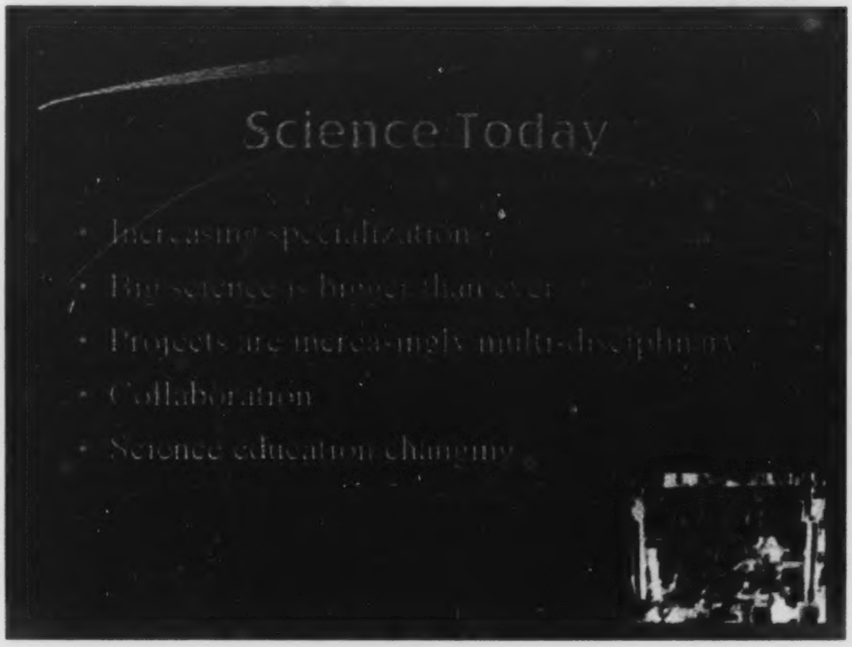

Science Today

- Increasing specialization
- Big science is bigger than ever
- Projects are increasingly multi-disciplinary
- Collaboration
- Science education changing

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Science has seen increasing specialization through fission and fusion of disciplines, yet

- big science is bigger than ever, for example, the human genome project, Hubble space telescope, space science and high energy physics
- large projects addressed to social and other problems are becoming increasingly multi-disciplinary in scope and companies are assigning teams of scientists with different specialties to follow products from discovery through to the marketplace
- there is more collaboration among and between universities, government and industry and global collaboratories are thriving
- science education is becoming increasingly multidisciplinary, adjunct faculty from outside academe are used more, and there is growing collaboration both among academic departments and among academic institutions

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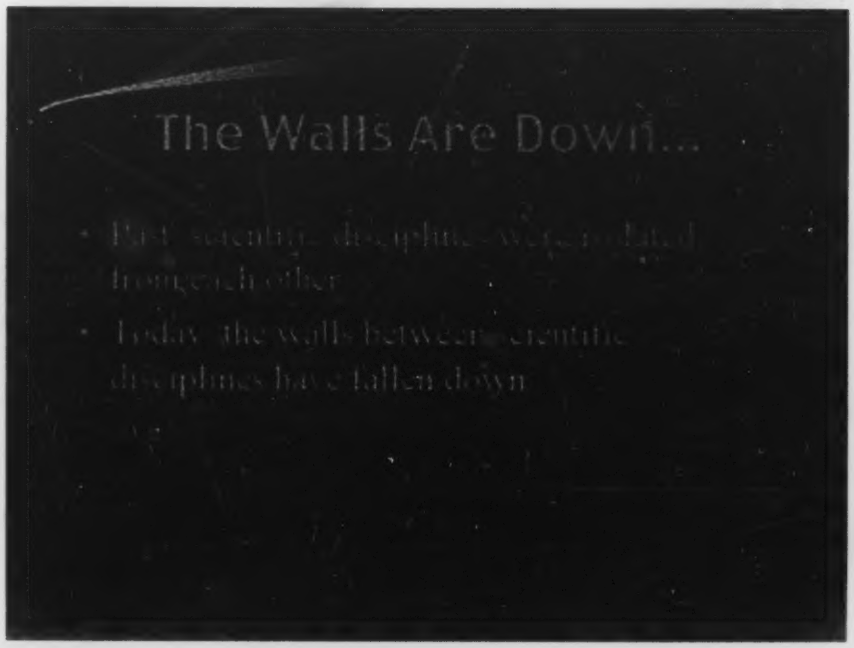

The Walls Are Down...

- Past: scientific disciplines were isolated from each other
- Today, the walls between scientific disciplines have fallen down

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All of these changes have made the lines between research, education and practice less distinct.

In the past, scientific disciplines, for example, tended to be highly insular cultures, with individuals rarely venturing beyond their borders or seas. Norbert Wiener, 50 years ago, lamented that such disciplines developed their own vocabulary for common notions and, thus, "important work has been triplicated or quadruplicated, while still other work is delayed by t he unavailability in one field of results that may already have become classical in the next field. Fortunately, the changes in science over the last five decades have begun to tear down the "Berlin walls" of science - mostly through necessity. As John F. Kennedy, in his now-famous Berlin Wall speech, "All the world knows that no successful system builds a wall to keep its people in and freedom out."

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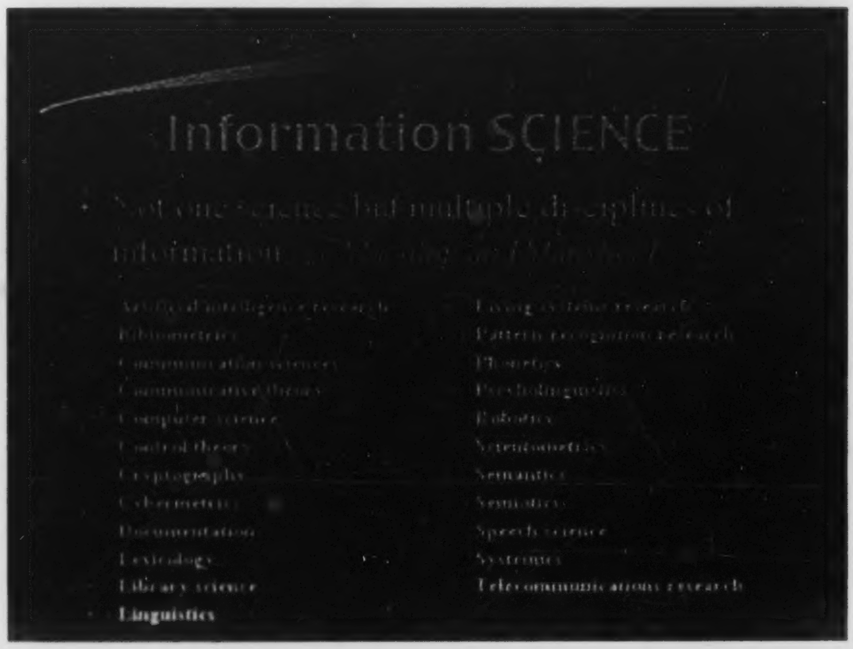

Information SCIENCE

- Not one science but multiple disciplines of information (Machlup and Mansfield)

Artificial intelligence research	Living systems research
Bibliometrics	Pattern recognition research
Communication sciences	Phonetics
Communicative theory	Psycholinguistics
Computer science	Robotics
Control theory	Scientometrics
Cryptography	Semantics
Cybernetics	Semiotics
Documentation	Speech science
Lexicology	Systemics
Library science	Telecommunications research
Linguistics	

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How does the experience of science, in general, relate to our field? I believe that it is highly relevant. First, I believe that there is no single information science, but rather 30 or 40 disciplines of information - as identified by Machlup and Mansfield some 15 years ago. These include this list:

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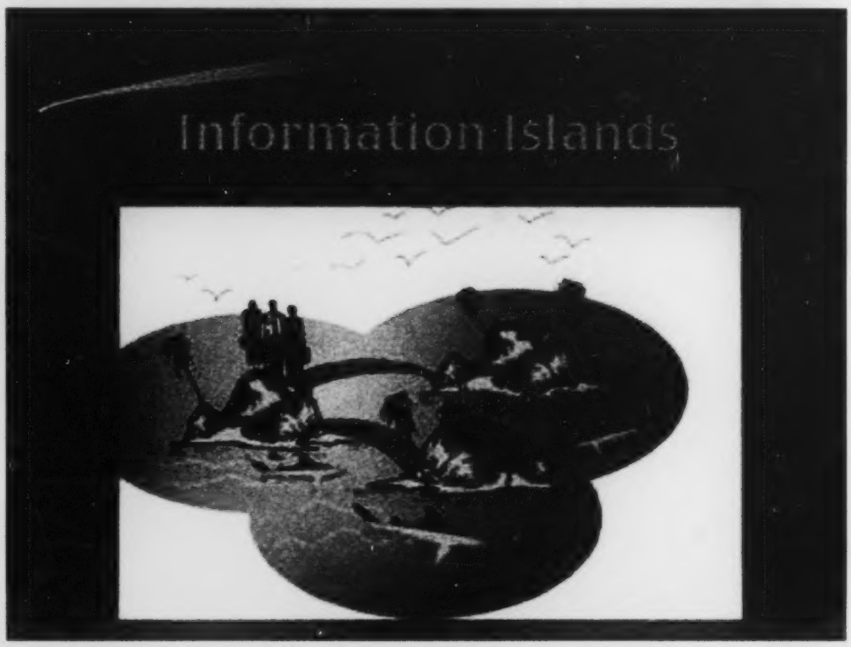

Information Islands

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While each of these disciplines has in common a focus on the phenomenon, information, as the object of research, education and, sometimes, practice, they still tend to have separate cultures located on isolated islands. Machlup, in a study of these information disciplines, indicates that such specialties tend to have their own languages that describe the same thing in different words; they are multilingual although all use English.

Herbert Simon, the Nobel laureate, likened Machlup's project to an anthropological exploration into islands whose inhabitants speak foreign tongues: attempts are made to help learn the meanings of the strange sounds, and one tries to make sense of what is seen and heard.

Perhaps we have not progressed all that far, although some academic institutions are making breakthroughs - and I'd put the University of Michigan's School of Information in that category.

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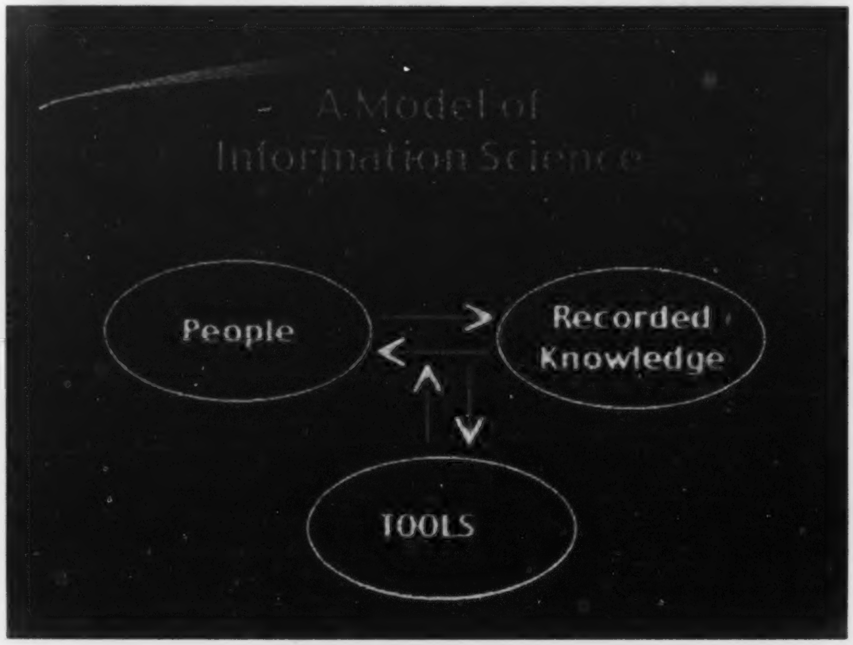

A Model of Information Science

Slide 8 of 28

The model I use to describe the information sciences has three key dimensions: people, recorded knowledge, and tools.

I believe that the emerging discipline information science spans all three dimensions. It is focused on the relationship between people and recorded knowledge and uses a variety of tools to help understand and improve the relationship.

How does research in each area inform practice?

Comments or Questions?

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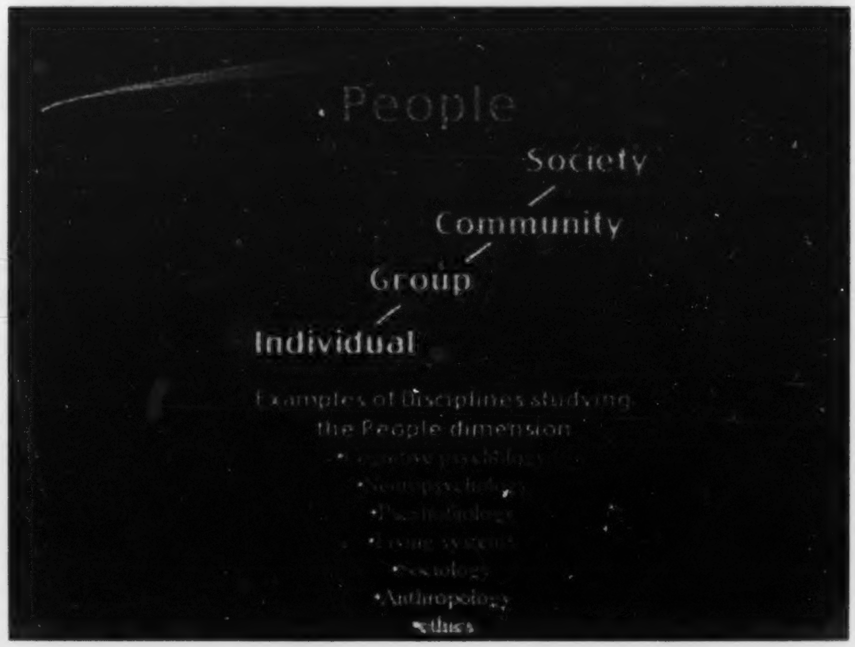

People

Society
Community
Group
Individual

Examples of Disciplines studying the People dimension
•[illegible]
•Neuropsychology
•Psychobiology
•Living systems
•Sociology
•Anthropology
•ethics

Slide 9 of 28

People

Research about people includes studies of mental processes (remembering, recognizing, storing, retrieving information, etc.) and structures (models of knowledge structures); the study of information seeking preferences and behavior; study of information use and non-use; study of organizational use of information and knowledge; ...

Developing deeper understandings of the preferences and practices of individuals, groups, communities, etc. helps in the design and delivery of improved processes and services associated with both the production and dissemination of recorded knowledge

Comments or Questions?

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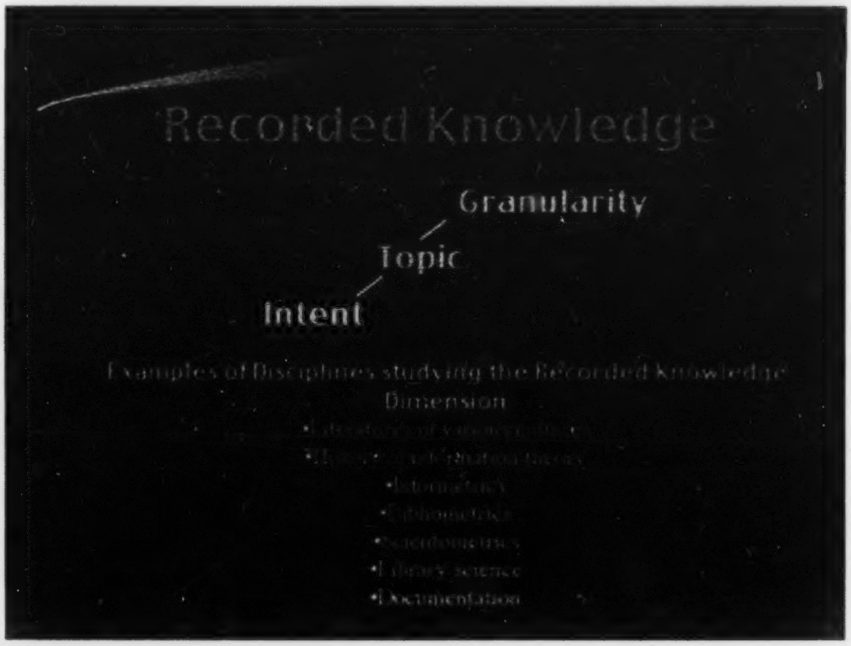

Recorded Knowledge

Granularity
Topic
Intent

Examples of Disciplines studying the Recorded Knowledge Dimension

- Literatures of various cultures
- History of information theory
- Informetrics
- Bibliometrics
- Scientometrics
- Library science
- Documentation

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Recorded Knowledge

Research about recorded knowledge includes the study of the Literatures of various cultures, the History of information theory, Informetrics, Bibliometrics, Scientometrics, Library science, and Documentation.

Developing deeper understandings of the structure of knowledge in various content disciplines, the preferred format and medium for communication, publishing practices, etc. helps in the purposeful selection of content into organized collections, ...

Comments or Questions?

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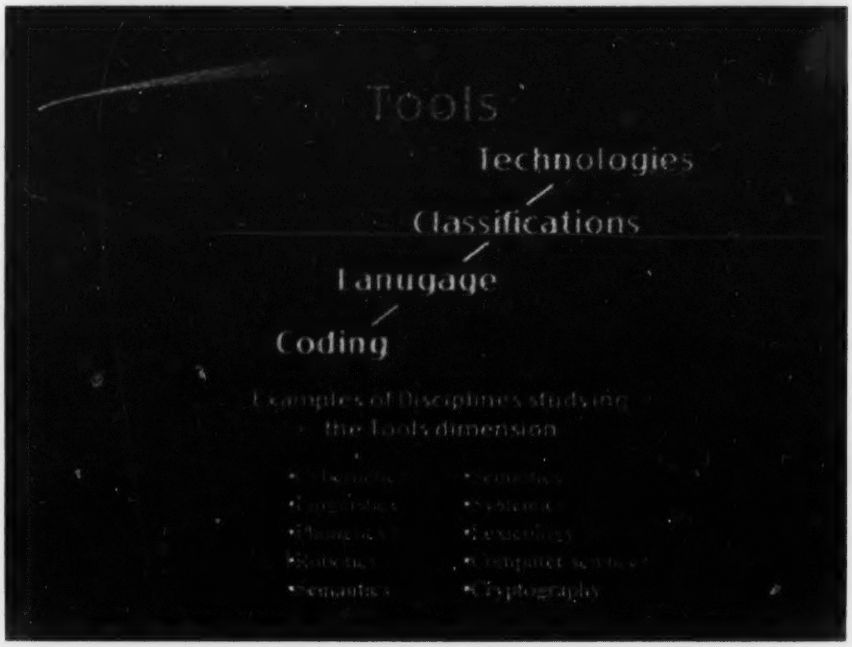

Tools

Technologies
/
Classifications
/
Language
/
Coding

Examples of Disciplines studying the Tools dimension

- [illegible]
- Linguistics
- Phonetics
- Robotics
- Semantics
- Semiotics
- [illegible]
- Lexicology
- Computer science
- Cryptography

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Tools

Research about tools tends to be more applied in nature, although not exclusively so. Research in this area includes classification schemes, indexing vocabularies, automated systems, retrieval algorithms, etc.

Research associated with tool design, development and evaluation can be used to help improve the relationship between people and recorded knowledge - creation, capture, storage, dissemination and use.

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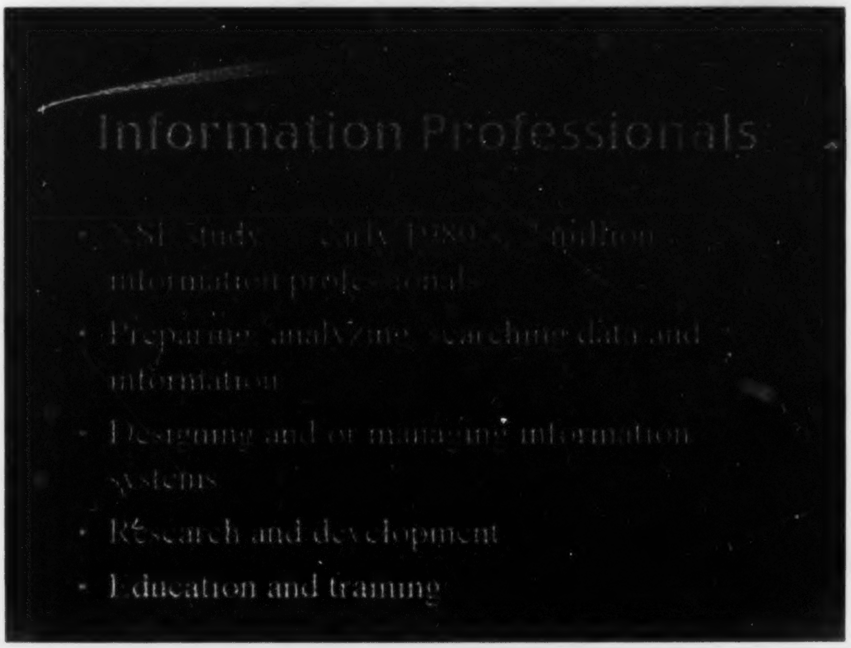

Information Professionals

- NSF Study — early 1980's, 2 million information professionals
- Preparing, analyzing, searching data and information
- Designing and or managing information systems
- Research and development
- Education and training

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Education in the Information Sciences

If indeed, all the research that different disciplines pursue can have some bearing on the relationship between people and recorded knowledge, what are the implications for educational programs? Clearly, it would be impossible to cover the content of each of the contributing disciplines. It is also clear that no single academic school or department could, or should, attempt to prepare people for each potential area of practice.

An NSF study in the early 1980s showed that, at that time, there were nearly two million people working as information professionals. That is, they were engaged in:\

- Preparing data and information for use by others
- Analyzing data and information on behalf of others
- Searching data and information on behalf of others
- Performing other operational information functions, e.g., storing, ordering, etc.
- Managing information operations, programs, services or databases
- Conducting information systems analysis
- Designing information systems

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- Performing research and development related to information
- Educating and training information workers

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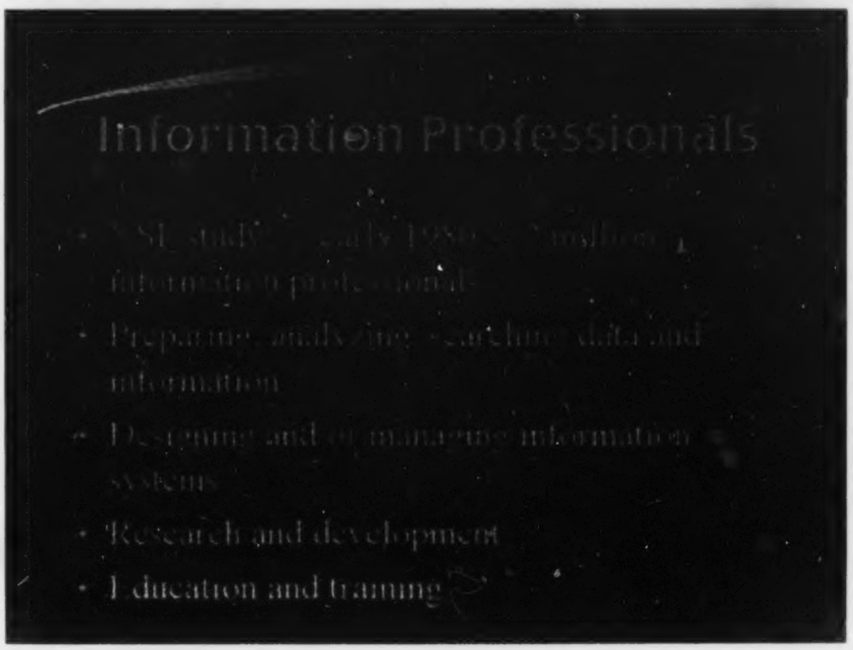

Information Professionals

- [illegible] study – early 1980s – [illegible] million information professionals
- Preparing, analyzing, searching data and information
- Designing and/or managing information systems
- Research and development
- Education and training

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Most of these information professionals had no formal education directly related to their information professional practice; rather, they had migrated from other fields such as science, business, medicine, and so on. Today, the number of information professionals must be at least twice as large as in the early 1980s. So, what role can education play in preparing these professionals for practice?

To answer this question we must first examine the goals of higher education. Boyer (1992) defines four basic roles of research universities:

- To create knowledge by conducting basic research (discovery)
- To transmit new knowledge through teaching, writing, publishing, meetings and promotion (develop understanding)
- To apply the knowledge through consulting and applied research (development)
- To preserve knowledge through archives and libraries (preservation)

Education, particularly graduate education, driven by research findings and the needs of the workplace seeks to find a happy medium between theory and practice. Educational programs in information science(s) should define themselves relative to the strengths of their institutions and their faculty. How can institutions successfully build research and education programs that

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are truly interdisciplinary?

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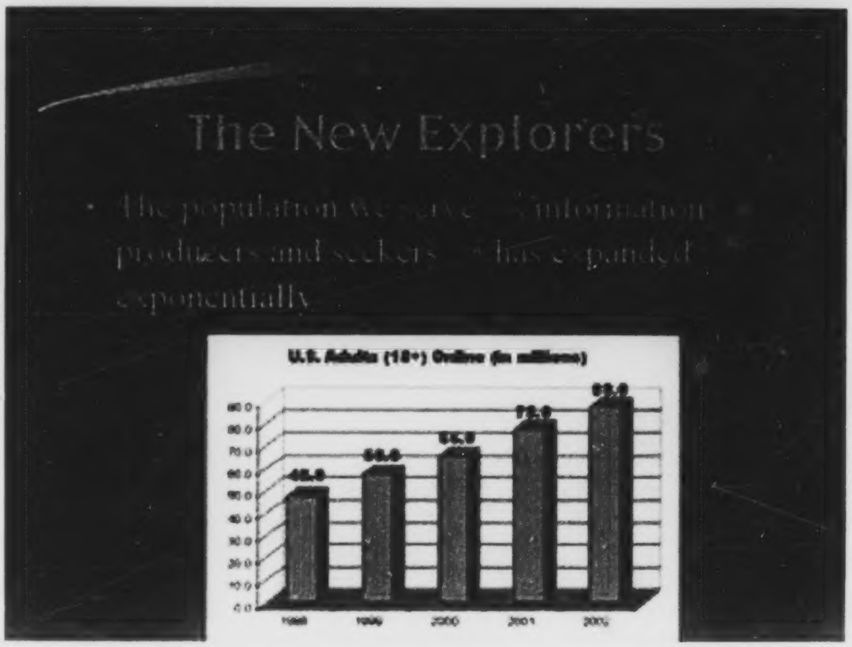

The New Explorers

- The population we serve – information producers and seekers – has expanded exponentially

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The New Explorers

The population we serve - information seekers - has expanded exponentially As this chart shows, the population of Internet users in the U.S. is growing at an amazing rate. Worldwide estimates are that the population is greater than 200 million.. However, unfortunately, what we see in today's easy-to-use Web interfaces and navigational tools is a "dumbing down" of the retrieval process. Already we hear cries of information overload, information anxiety, etc. The tools available today are too simplistic for effective retrieval for many purposes, especially in an environment which can support an explosion in the amount of information made available. The Web is an excellent tool to find some information about a topic, to find very current and rapidly changing information and to communicate with others with similar interests. But it provides less and less support to the serious information searcher. The Web at present is much like the entire Library of Congress with all the materials shelved randomly or, perhaps an even more accurate image, all the materials in large unorganized piles on the floor, with the pages torn out!

Comments or Questions?

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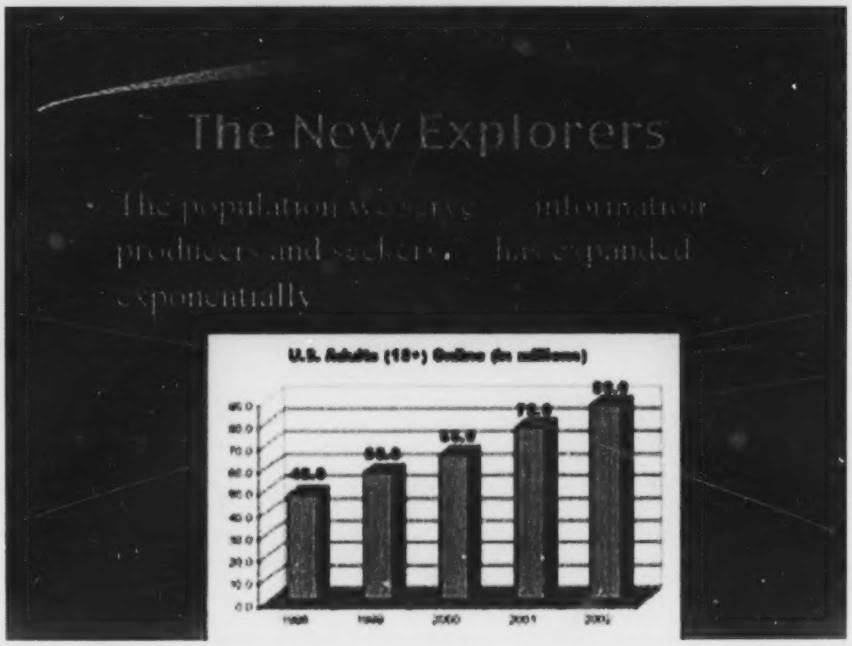

The New Explorers

- The population we serve information producers and seekers has expanded exponentially

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An expanded base of practice requires an expanded base of theory

Interdisciplinary activity is best performed by those individuals we classify as "boundary spanners." These individuals need to have a certain self-assuredness of their position in their originating discipline; be open to new ideas and approaches; be patient enough to learn new modes of discourse; and be creative in applying their home discipline to new areas.

Being a boundary spanner is not easy. Swimming in uncharted waters can be dangerous. Institutions need to modify their recognition and reward systems to encourage rather than discourage interdisciplinary activities.

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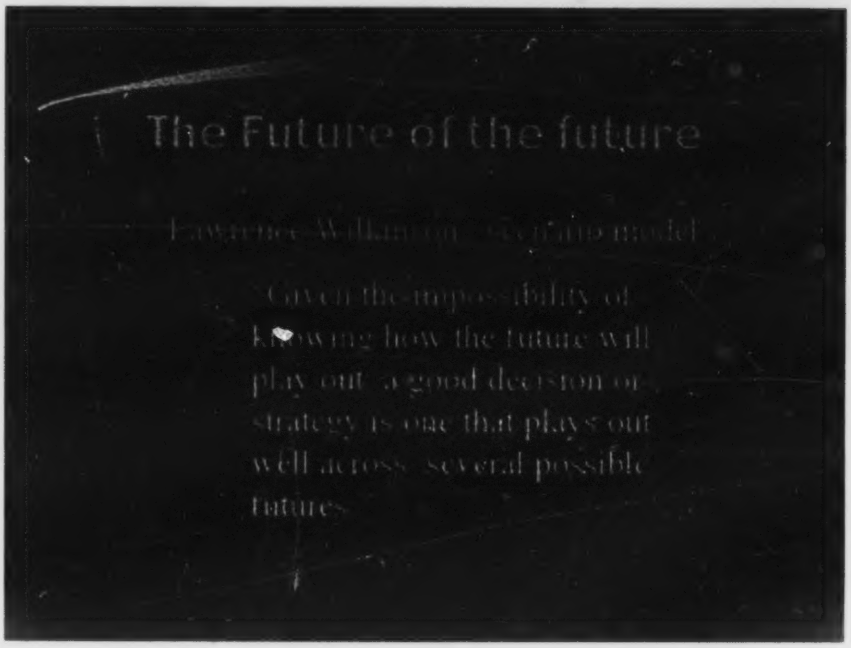

The Future of the future

Lawrence Wilkinson scenario model

Given the impossibility of knowing how the future will play out a good decision or strategy is one that plays out well across several possible futures

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The future of the future

Lawrence Wilkinson, in an article in Wired Magazine proposed a scenario model of considering some of the issues of the future of information. He said:

> "Given the impossibility of knowing how the future will play out, a good decision or strategy is one that plays out well across several possible futures."

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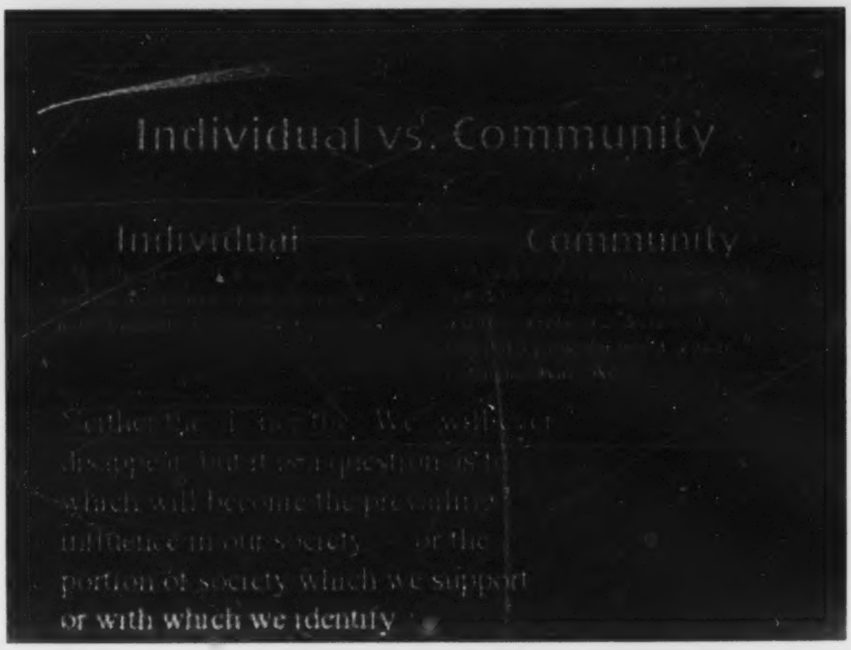

Individual vs. Community

Individual | Community

"Neither the 'I' nor the 'We' will ever disappear, but it is a question as to which will become the prevailing influence in our society — or the portion of society which we support or with which we identify."

Slide 17 of 28

Wilkinson proposes that there is a tension between a focus on the individual and a focus on community. As he says, "Neither the 'I' nor the 'We' will ever disappear, but it is a question as to which will become the prevailing influence in our society - of the portion of society which we support or with which we identify."

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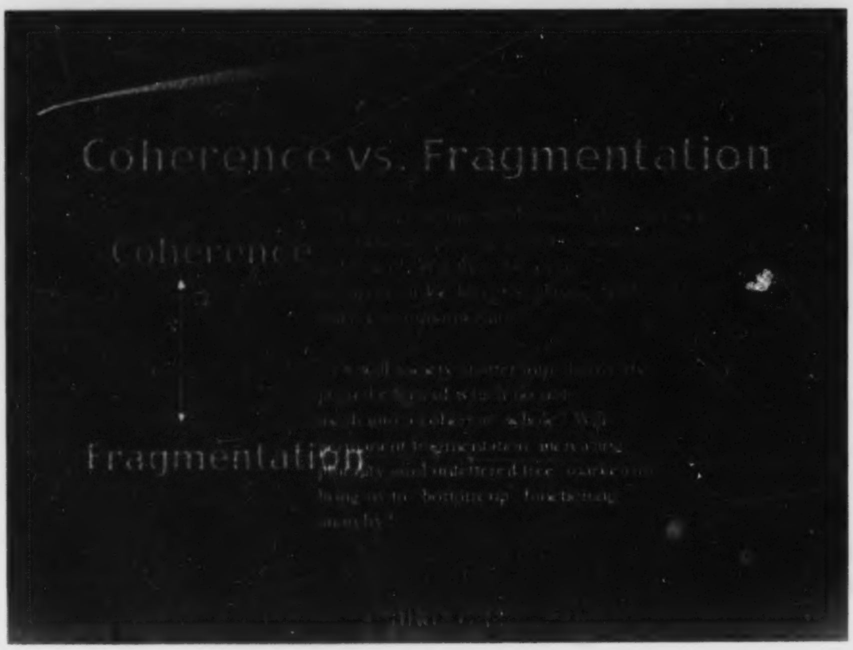

Coherence vs. Fragmentation

Coherence

Fragmentation

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There is a also a tension between the states of coherence or fragmentation. As he says, "Will society be the center that holds and provides stability, or will it fragment?"

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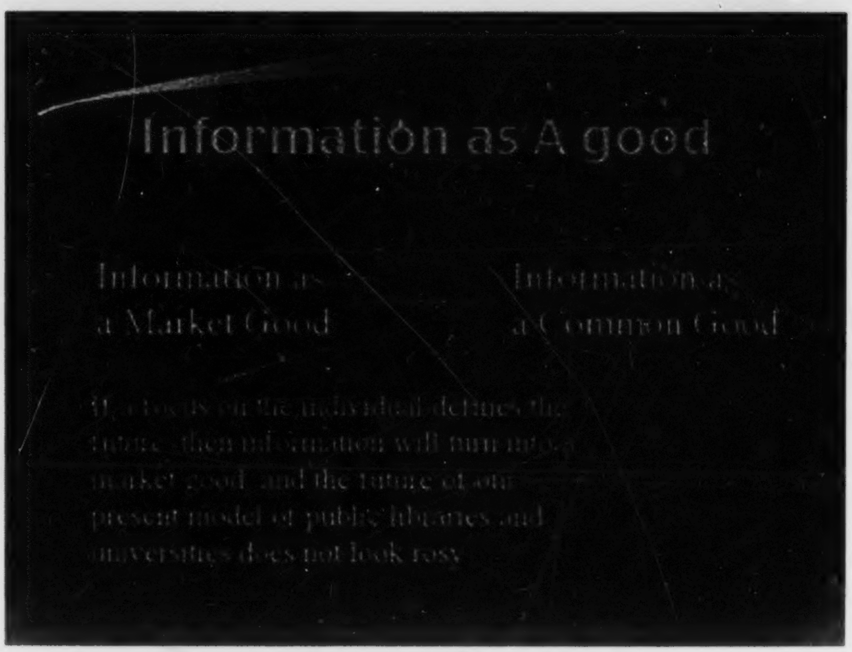

Information as A good

Information as a Market Good

Information as a Common Good

If a focus on the individual defines the future, then information will turn into a market good, and the future of our present model of public libraries and universities does not look rosy.

Slide 19 of 28

Professor Tom Wilson, of the University of Sheffield, England and explored their application to the possible role of the librarian in each of the four scenarios. He introduced another dimension that aligns with individualism versus community, that of information as a market good or information as a common good.

Wilson suggests that if a focus on the individual defines the future, then information will turn into a market good, and the future of our present model of public libraries and universities does not look rosy. However, if coherence and community are the dominant characteristics, than our present model of public-funded, community-based information resources will continue to be viable.

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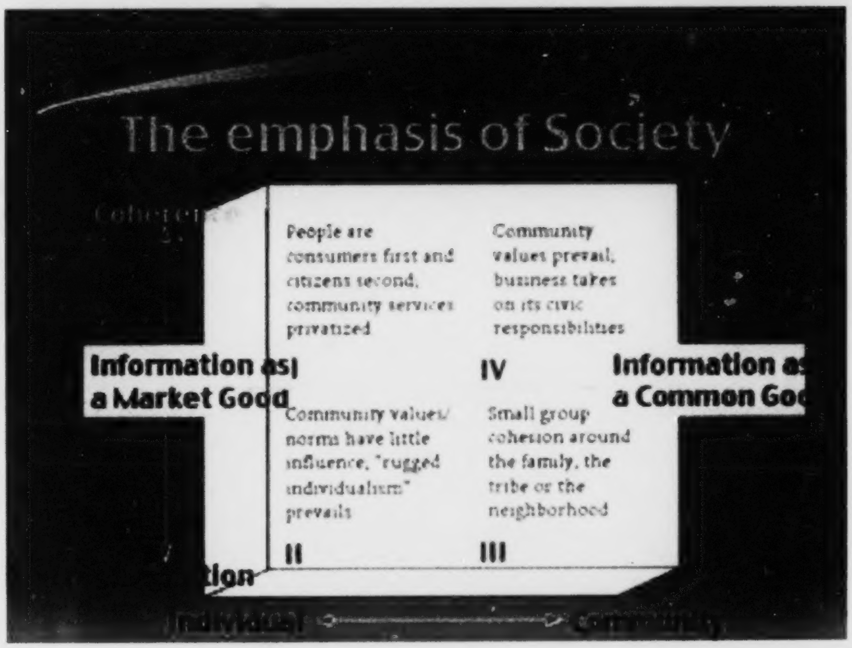

The emphasis of Society

Information as a Market Good

Information as a Common Goo

People are consumers first and citizens second, community services privatized

Community values prevail, business takes on its civic responsibilities

IV

Community values/ norms have little influence, "rugged individualism" prevails

II

Small group cohesion around the family, the tribe or the neighborhood

III

Slide 20 of 28

If we chart Wired's two dimensions (albeit in a slightly different way than Wilkinson chose to), combined with Wilson's addition of the role of information, we come up with the following matrices and implications.

The emphasis of society
First, in terms of societal changes, each of the 4 quadrants would map something like this:

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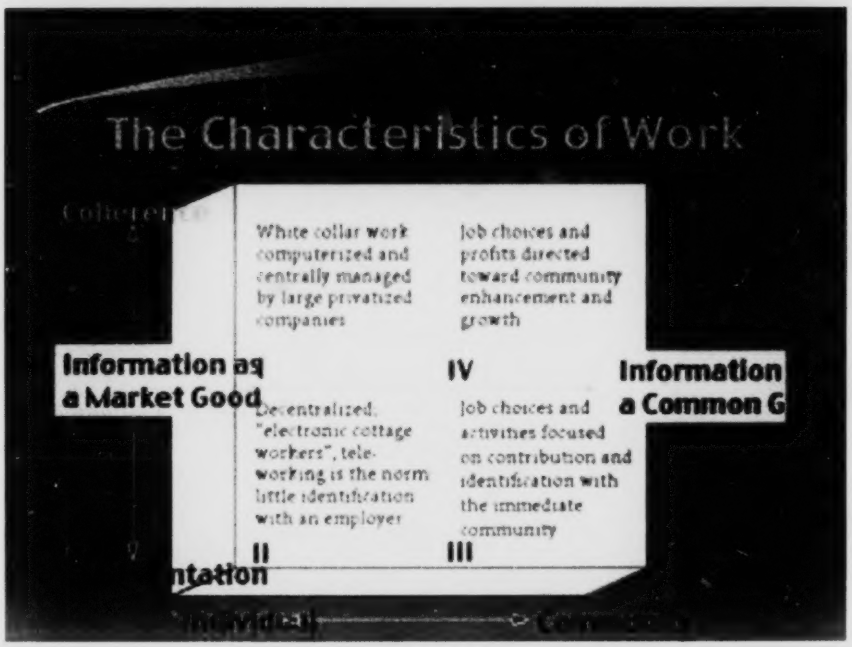

The Characteristics of Work

White collar work computerized and centrally managed by large privatized companies

Job choices and profits directed toward community enhancement and growth

Information as a Market Good

IV

Information a Common G

Decentralized, "electronic cottage workers", tele-working is the norm little identification with an employer

Job choices and activities focused on contribution and identification with the immediate community

II

III

ntation

Slide 21 of 28

The characteristic of work

Work, when mapped on these two dimensions, would likely have the following characteristics:(diagram)

And all of these forces and changes in both society and the world of work are creating a whole new population who require access and assistance with all kinds of information resources.

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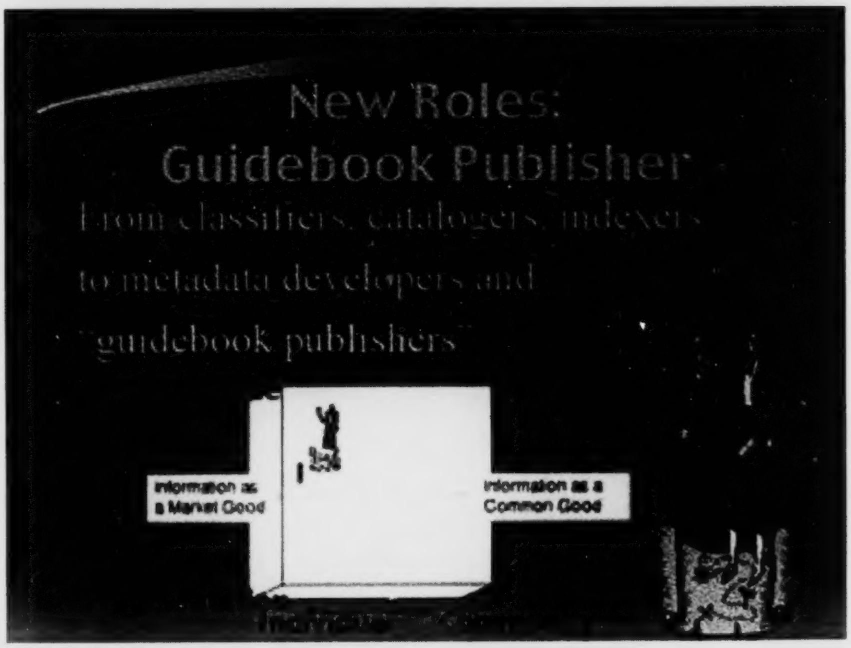

New Roles: Guidebook Publisher

From classifiers, catalogers, indexers to metadata developers and "guidebook publishers"

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And as we seek to serve all these "new explorers", I believe information professionals must learn to take on new roles. One of these is that of "Guidebook Publisher" This role is an expansion of the information professional's traditional role of cataloging and classification. It will become increasingly important to provide tools that contain intellectual content, structural and procedural information that will facilitate the identification and selection of relevant information items and objects, and a much greater level of disaggregation and discrimination than previously available. For example, it may be necessary to be able to identify a data table or chart in a published report and link it to a database and a mathematical model that was used to manipulate the data. Mounting unique local materials and adding pointers to specific related materials contributes a resource that saves students and researchers invaluable searching time. This is especially true in multidisciplinary endeavors, where the existing resources are organized by disciplinary divisions that are no longer applicable to the knowledge process.

Comments or Questions?

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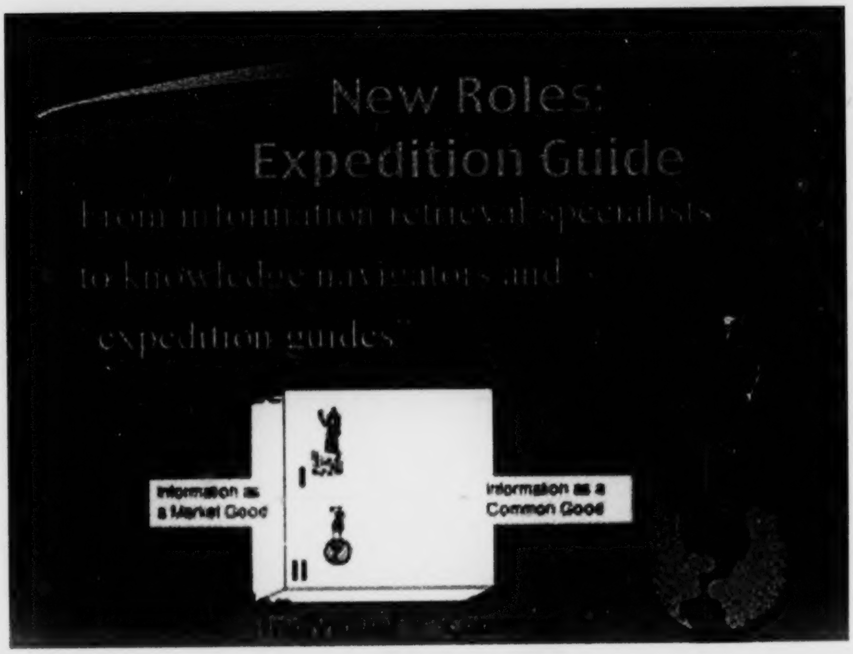

New Roles:
Expedition Guide

From information retrieval specialists to knowledge navigators and expedition guides"

Information as a Market Good
I
II
Information as a Common Good

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In the expanding knowledge universe, the information professional and information user can be thought of as pioneers exploring new knowledge frontiers. In this new future, one in which we really do not know where we will end up, the information professional often takes on the role of expedition guide. We can be the physical guides, the procedural guides and the intellectual guides to knowledge resources in various formats. However, as the guide, one cannot always lead. Sometimes it may be necessary to follow while someone else steps up for awhile and cuts down the forest in front of us, clearing a new path. The success of the expedition requires the information professional to be both leader and follower, consistently providing guidance from either role.

Comments or Questions?

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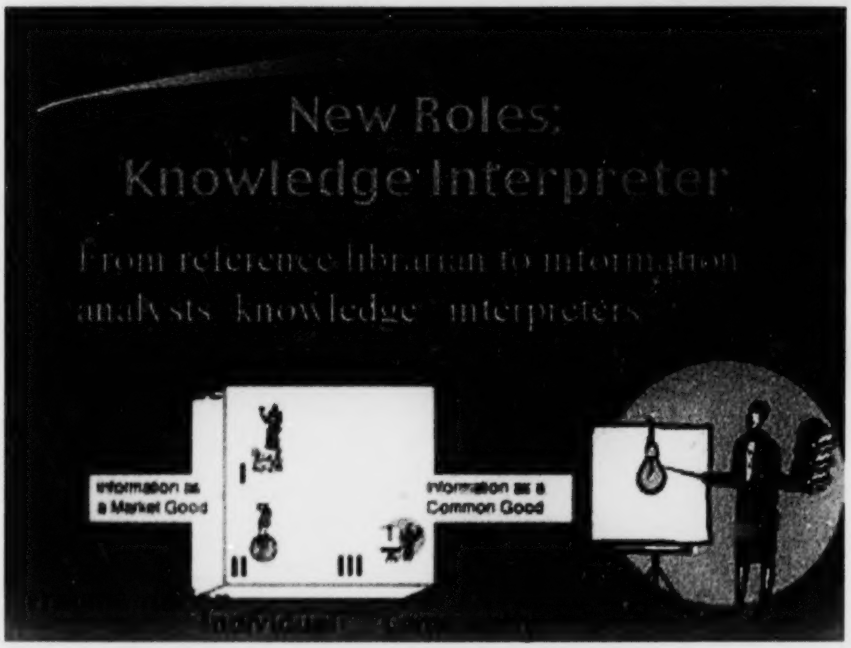
New Roles: Knowledge Interpreter

From reference librarian to information analysts, knowledge interpreters

Information as a Market Good
Information as a Common Good
I
II
III

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In an environment where the information content available is expanding so rapidly, users need help to extract the information they require and to interpret it in the context of the immediate need. This need has been identified in several studies but meeting this need has been a role that information professionals have shied away from. Regardless of which individuals play this role, the need for information extraction and analysis is increasing.

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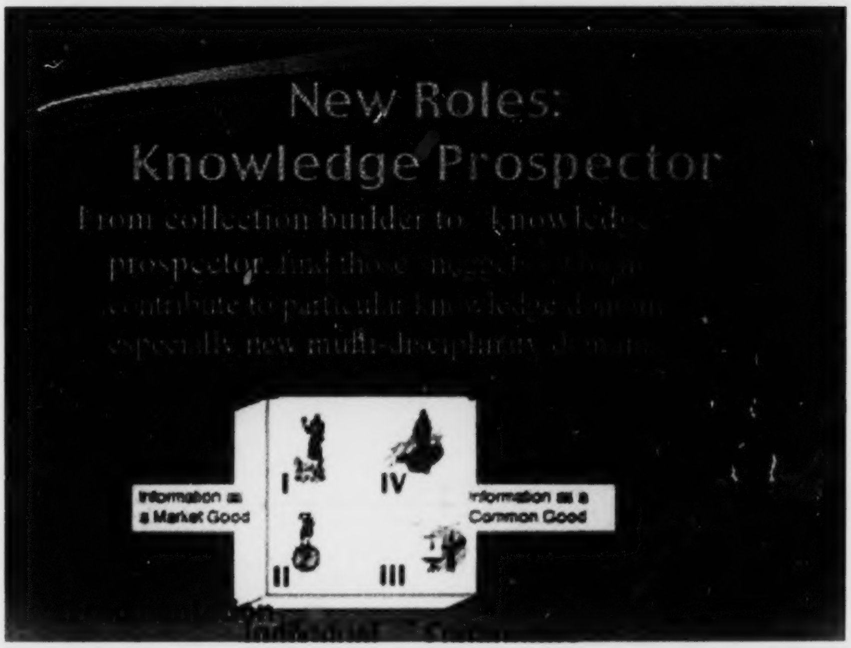

New Roles:
Knowledge Prospector

From collection builder to "knowledge prospector," find those "nuggets" which contribute to particular knowledge domains especially new multi-disciplinary domains

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In an environment in which almost anyone can "publish", the information professional will have to sift through vast quantities of electronically-published material as well as traditional sources to identify those "nuggets" which contribute to particular knowledge domains. The creation of validated collections of digital materials and their relationship to validated non-digital materials will offer a significant value-add to the serious information seeker, while allowing other linkages to be developed and used. This will be especially critical in the support of those new multi-disciplinary domains, where there is no existing organizational structure or established source for validated materials.

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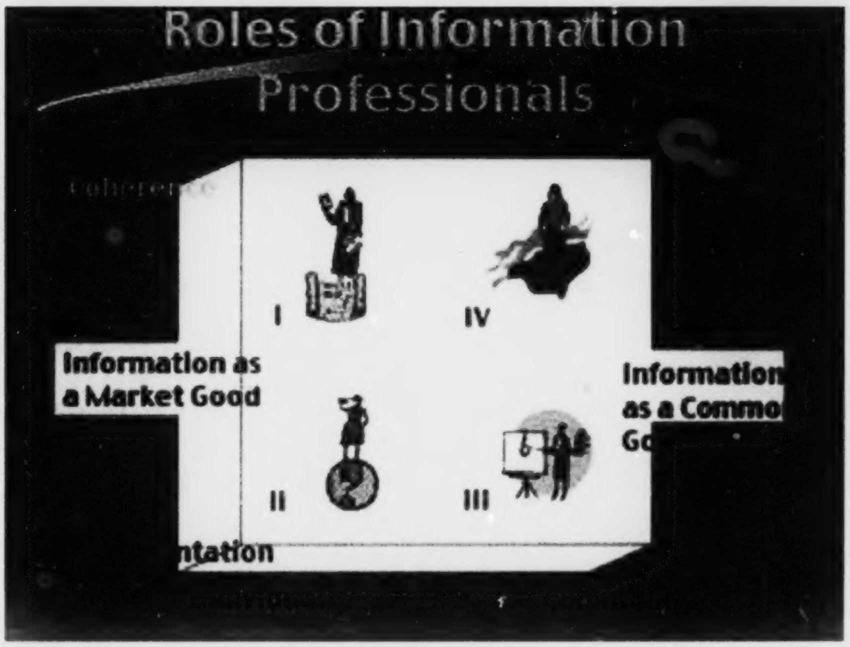

Roles of Information Professionals

coherence

I

IV

II

III

Information as a Market Good

Information as a Commo Go

ntation

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At the University of Michigan School of Information the research of the faculty is carefully woven into the curriculum, at both the foundational and specialized levels. Graduates of the program are hired into a wide variety of information-related jobs. The School also supports a doctoral program that prepares the next generation of researchers and educators. Faculty are drawn from a wide variety of backgrounds including:

- library science
- information science
- computer science
- cognitive psychology
- management science
- electrical engineering
- communications
- economics
- sociology
- public policy
- history and philosophy of science
- archives administration

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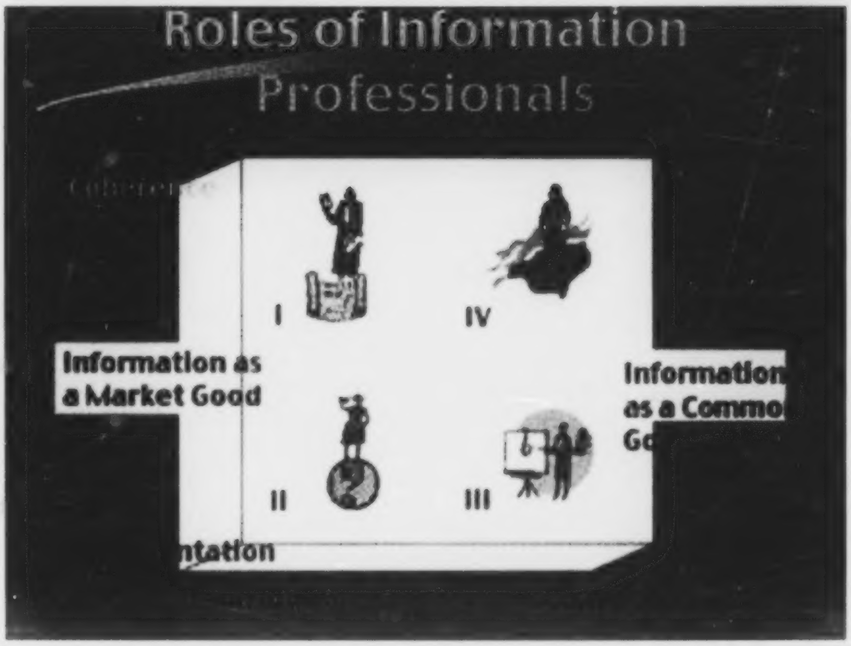

Roles of Information Professionals

Information as a Market Good

Information as a Commo

Go

ntation

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The University is committed to fund a number of senior-level appointments. Faculty at the rank of full professor were willing to shift their appointments (in whole or in part) from their "home disciplines" to the new School. This core of well-respected faculty in their individual disciplines has been a magnet for attracting additional, more junior faculty and doctoral students from a variety of disciplines. The School has recently announced new joint degree programs with Law, ... The faculty in the School can, for the most part, be classified as boundary spanners. As faculty interact more and collaborate in research and teaching activities, a Michigan flavor of information science is evolving. We are actively seeking to support the future of higher education and information science.

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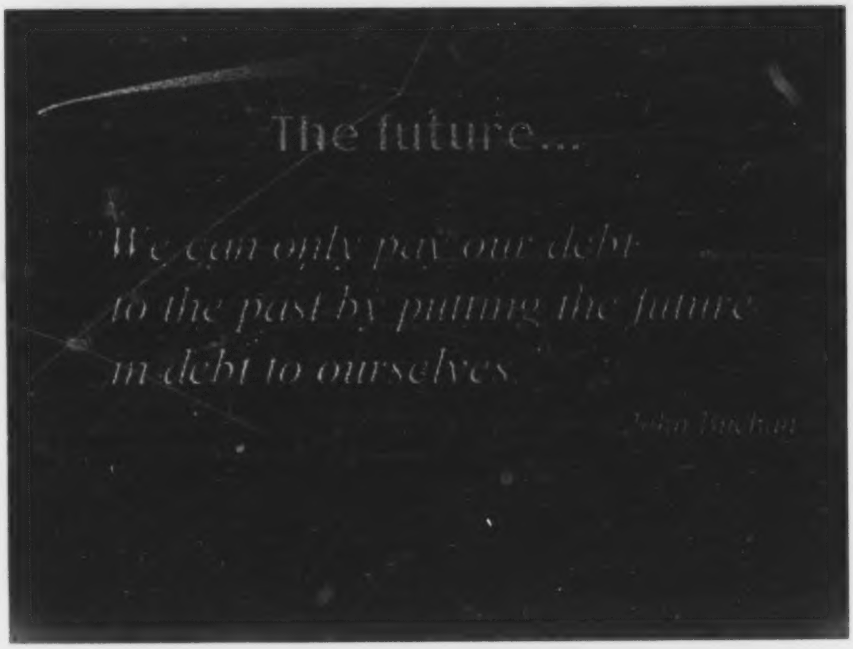

The future...

"We can only pay our debt to the past by putting the future in debt to ourselves."

John Buchan

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And we have a great responsibility to the future. As I mentioned at the beginning of this talk, I certainly am aware of those who have come before me, whose work has made possible my contributions. We are living at a time in history when we, as information professionals, may have more impact on the creation and sharing of knowledge than our predecessors could even have imagined. It is a responsibility we must take seriously and creatively. I resonate with this quote: "We can only pay our debt to the past by putting the future in debt to ourselves." As we pay that debt, I am encouraged that we can simultaneously reach back to our disciplines, and into the future with new roles and possibilities. As Allen Kay has said, the best way to predict the future is to invent it.

Thank you.

Comments or Questions?

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Proceedings

Development of Information Literacy: a Plan

Helen Hasan

This presentation aims to:

- identify key elements in the development of information literacy as seen through my research
- provide a brief overview of the secondary school in which I work
- describe the school's new development plan
- outline the library's inital proposal for the development of information literacy within the school's development plan

Definition of information literacy

From research I am currently undertaking regarding the development of information literacy. I would like to share some significant points. These points I believe will form the Resource Centre's involvement in the school's development plan which is currently being revised.

I would like to begin with a definition of information literacy that I favour. This definition from the American Library Association was presented in 1989. It is also a definition that would be familiar to many of you here today.

> To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information - Ultimately, information literate people are those who have learned how to learn. They know how to learn because they know how knowledge is organised, how to find information, and how to use information in such a way that others can learn from them. They are people prepared for lifelong learning, because they can always find the information needed for any task or decision at hand.
> American Library Association 1989

I favour this definition because of two elements:

- requirement of a person to learn how to learn
- promotion of the principles of lifelong learning

We know that we are living in the Information Age and that technology has made a huge impact on our lives. Not longer is it viable for students to learn information of by heart. Instead in schools we are called or urged to give our students the skills necessary to live, work and function in this society.

From the literature and data that I have collected the key to developing information literacy lies within these elements:

- Recognition of the concept of information literacy by the whole school community
- That a set of skills needs to be taught and learnt by our students
- It is through interaction with information together with our experiences that enables the result of knowledge or problems to be solved *(don't mean to oversimplify here)*
- It is a long process that requires understanding of the concept, a belief in information literacy and a commitment to its development

- That provision is made for ongoing professional development

Characteristics of an information literate person

How do we recognise a person that is information literate? Through her research Christina Doyle outlined the characteristics that typify an information literate person:

An information literate person accesses information:

- recognises the need for information
- recognise that accurate and complete information is the basis for intelligent decision making
- formulates questions based on information needs
- identifies potential sources
- develops successful search strategies
- accesses sources of information, including computer-based and other technology
- evaluates information
- organises information for practical application
- integrates new information into an existing body of knowledge
- applies information in critical thinking and problem solving

To complement her list, Christine Bruce and Penny Moore, as a result of their individual research, have provided additional characteristics:

Bruce (1997) adds:

- Use information technology
- Approaches information critically
- Has developed a personal information style

Moore (1999) adds:

- Has values which promote information use
- Evaluates information during all phases of information problem solving

When aiming to achieve information literacy, a person needs to demonstrate these skills with some proficiency. Literature also indicates that higher order thinking skills and critical thinking skills are important components for the development of information literacy.

Environment for information literacy

To develop information literacy the environment plays a significant part. Environment is not only the physical presence of the school, library or classroom but also the culture for learning or now commonly known as learning community. There are many factors involved here.

From my research some of the main factors are:

- fundamental understanding of the concept of a learning community
- engage students in their learning i.e. accommodating different learning styles, employing different teaching methods
- need for policies and documentation to ensure that attitudes, skills and strategies for information literacy are developed consistently and reinforced throughout the students life at school
- need for relevant, consistent and ongoing professional development for not only teacher

librarians but subject/class teachers and school leaders

- implementation of an information skills program integrated into all Key Learning Areas
- appropriate allocation of funds by establishing priorities and ensuring careful planning, - for adequate resources - book, non book and human, updating of learning technologies, ongoing professional development
- equitable access to information and learning technologies
- use of time and making time - establishing a commitment

As you are aware, other influences on the learning community are:

- Groups within the school i.e. students, staff, faculties etc
- Principal and/or leadership or administration team
- Curriculum reform or initiatives
- Information age and technological age

Monitoring of information literacy

There are numerous examples in the literature that show that information literacy has been discussed for a number of years now and that research in this area is on the increase - not only in here in Australia but also overseas especially in Canada and USA. Interesting enough the area of monitoring of the development of information literacy is an area not widely written about.

According to the data that I collected these are some of the salient points made about monitoring of information literacy. Monitoring:

- is conducted by the teacher librarian based on their own information skills program
- results when a devised checklist of attributes or skills or characteristics is identified
- has a specific destination i.e. formal reporting
- encounters difficulty when conducted by only one person, and the assessment is not passed on to someone else
- occurs within the context of a planned sequence of lessons or a unit of work

Challenges for the development of information literacy

What are the challenges for the development of information literacy? Again according to my research:

- That information literacy is not an added extra but lies within all curriculum areas
- Approach devised for the development of information literacy needs to be followed by all members of the learning community
- Resource Centre - though an ideal starting point for the development of information literacy and with the expertise that it contains - can be overlooked
- Allocation of time for discussion about the concepts of information literacy and learning communities in both formal and informal settings is required
- Support for PD and PD that reflects practical strategies for the development of information literacy
- Continued action research to trial ideas for successful development of information literacy

OVERVIEW OF MARCELLIN COLLEGE

How do these key elements relate to my work situation?

Marcellin College is a Catholic boys college conducted by the Marist Brothers.

The school is located in Bulleen - one of Melbourne's north-eastern suburbs.

The school's population is 1130+ students from Year 7 - 12.

This year marks the college's 50th anniversary.

The college has been a single campus since 1993.

The ethnic background is predominantly Italian, followed by Anglo-Saxon, Greek, and Lebanese. There is a small Asian population.

I began at Marcellin College at the beginning of second term this year. These are some of the observations that I have made in light of information literacy.

Observations

For three years now parents of students entering Year 7 elect if their son will use a notebook computer. The majority of work undertaken by these students is based on engaging learning using learning technologies. On average half of the classes in the year level have notebooks.

Earlier this year the college joined the *Technology for Catholic Schools* TCS project - an initiative by the Catholic Education Office - and became part of the Catholic Education Virtual Network (CEVN).

The Head of Information Technology and Head of Resource Centre were new appointments to the school this year, first term and second term respectively. The Head of IT and Resource Centre have established a sound working relationship. [Thanks]

Work has begun at establishing a school's intranet for not only communication purposes but also to enhance learning.

The college is currently experiencing a technology crisis. New hardware to replace old - for staff and students, auditing PD requirements for staff, further integrating learning technologies into the curriculum.

The college has completed its five year School Development Plan titled Towards 2000 which was aimed at taking the college into the next millennium.

The Resource Centre has stagnated in its efforts to foster the development of information literacy.

The leadership team, which comprises six members, has four of its members new to the committee in the past two years.

There will be a change of principal for 2001.

Though some of observations may sound critical I believe there is great hope.

School's Development Plan

With the dawn of 2000 the school development plan became defunct. Utilising the skills of an external consultant, preparations are well underway to draft a new school development plan. This strategic project is aptly named Beyond 2000.

Beyond 2000 - Strategic Plan

Beyond 2000 strategic plan seeks to enable Marcellin College to become a more authentic learning community.

The school's vision statement is used as the basis for the strategic plan. Three key areas for development have been identified. Each area is naturally interrelated.

- Quality teaching and learning program
- Staff wellbeing, pastoral care
- Organisational structures

By the end of the school year the strategic plans, for each area, will be established, presented to staff, ratified by the School Council and ready for implementation in 2001.

LINKING THE RESOURCE CENTRE WITH *BEYOND 2000*

Relating the strategic plan to the information literacy

How does the strategic plan and the need for further development of information literacy relate? What involvement will the Resource Centre play?

The Resource Centre is taking a very keen interest in the proceedings of the strategic plan. The Resource Centre has been involved in the preparation work. Two members of the Resource Centre, myself and one library technician, have gained selection on two of the three working parties.

This will enable the Resource Centre to witness first hand the strategic plan development but also ensure contributions with regard to the development of information literacy.

In additional to this the Resource Centre has made a commitment to undertake the following activities to ensure renew interest in the developing information literacy. Some of these activities have begun.

- Formal discussions on the role of the Resource Centre and the role of Resource Centre staff. This has enabled the Resource Centre staff to revisit their goals and reset the vision.
- Devised a departmental plan for 2001 bearing in mind that changes will occur with the release of the strategic plans.
- Specifically target Year 7 & 8 teachers and reintroduce an information skills program set within the context of the subject specific work requirements.
- Use the ILPO documents to form the basis of the information skills program.
- Conduct a Year 6 transition meeting with teacher librarians from the feeder schools. This meeting will identify information skills students will bring with them to Marcellin.
- With the Head of Information Technology target the English and SOSE Heads of Department with compelling material outlining how the Resource Centre can assist them with helping their students meet their work requirements.
- Rearrange furniture in the Resource Centre to enable for a better learning environment.
- Use influence at committee levels ie curriculum, Heads of department and learning technologies to have information literacy on the agenda and embedded in curriculum.
- Identify assessment tools to enable the monitoring of these activities. Also includes establishing a timeframe and a report mechanism to be submitted the leadership team.

Finally I believe that:

An information literate school community based on the principles of lifelong learning is the key to the development of information literacy. The influence of the school's culture, the design of the school's curriculum and the teaching of information skills are key elements in formulating an information literate school community. It is crucial that the teaching environment allows learners to take risks, to use learning technologies combined with the implementation of an integrated information skills program that enables students to effectively transfer their skills from one subject to the other. Establishing suitable assessment and evaluation tools to monitor the development of information literacy will ensure that the College is moving to a more authentic learning community. The Resource Centre plays an important role but with collaboration with all members of the school community our ambitious plan just may succeed.

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Proceedings

Libraries, Knowledge Management, and Higher Education in an Electronic Environment

Brian Hawkins

Libraries are experiencing the same kinds of transformational change our colleges and universities are encountering, as digital technology fundamentally alters how services are provided, research is conducted, and learning occurs. As written elsewhere, digital technology is dramatically changing the print-on-paper library model that has been the mainstay of higher education.[i] Libraries must learn to adapt by appropriately modifying, supplementing, and discarding services while maintaining the core values so important to their role at the center of the academic enterprise.

Information technology is breaching the traditional disciplinary boundaries through which the university is organized, and through which we organize and access knowledge. It has challenged and made obsolete many of our current practices of providing library services, budgeting resources, defining our student constituencies, handling tenure decisions, etc.

Libraries provide us with a clear example of both the promise and the pitfalls of new technology, the problems solved, and the problems created. The acid paper that helped fuel the spread of literacy in the mid-nineteenth century, ironically contained the seeds of its own destruction, and in the latter part of the twentieth century libraries have been faced with a massive preservation challenge. Today, digital technology presents us with a similar dilemma - the potential for greatly enhanced access combined with uncontrollable and unexpected chaos.

An example of this challenge is the mistaken impression among all too many political and academic leaders that all someone has to do is search the Web for any information one needs. A vast amount of "information" is, indeed, available on the Web today, but it is not a coherent collection of information. Further, the amount of scholarly, intellectual and aesthetic information available on the Web is truly minimal when compared with what is available in a good library.

Perhaps the greatest obstacle to moving forward in this arena is eradicating the myth that the Web already provides this library environment. Furthermore, access to the Web is anything but egalitarian. The Web is not a library, and access to it is far from egalitarian. This needs to be clearly understood before we can begin to confront the challenges and the promises the Internet holds for us.

> It is imperative that we understand the Web and the ways it is not a library. But the Web, and whatever universally available electronic information system follows it, must be reckoned with, because an ever-larger population of our world is assuming that it replaces the library. We must address all the concerns the Web raises, find ways to compensate for its lacks, and reinforce the role of the library.[ii]

Because the Web is not catalogued, no one has an idea what is there, or how this information fits into a larger taxonomy of knowledge. Instead, we have rather primitive, inelegant key-word search engines, which are neither effective nor efficient in the retrieval of information. Technology has brought about flexibility and access, but also brought about chaos to those charged with codifying and making available the information of the ages. While this was manageable in the analog world, in the digital world there is a current absence of much of the value which libraries have contributed to our society.

As noted, the Web will never contain all of the information available in a good library. The absence of copyrighted material on the Web also presents a major shortcoming. Furthermore, most of the material that is historical and that precedes copyright hasn't been digitized, and there are not systematic efforts going on to address this. Although some individual libraries have programs to digitize some of this material and include it in their own collections, these efforts represent a duplicative and non-comprehensive approach.

The Web lacks standards and methods to validate or authenticate information. There is no librarian making informed decisions about the quality or appropriateness of the information and then adding this to a coherent collection. With the web, everything is equally valid (or not) and there are no filters. However, the Web is an outstanding example of the power of digital technology to provide widespread access to information. These challenges are made clear in a crisp and elegant manner by James O'Donnell as he states:

> " - In one important regard, the Internet is not a library: nobody built it. There is great value in the diversity and abundance of information out there, and one may reasonably expect that diversity and abundance to continue to explode. But the qualities that make the library valuable are not quite there yet. There is no organized cataloging, there is no commitment to preservation, there is no support system to help you find the difficult or missing resource. Finally, there is no filter: that is, there is none of the sense that a user of a great library has that somebody has thought about the possibilities and selected a set of materials to be both comprehensive and yet delimited. On the internet, you never know what you're missing."[iii]

While the Internet promises vast amounts of information available in an almost ubiquitous fashion, many of the basic defining characteristics of a library are missing. These missing elements will significantly retard the educational framework for our society. Libraries must be part of the fabric of the new electronic infrastructure that is emerging. Access to the content, the services, and the organisation of information is essential to teaching, learning, and inquiry at all levels of our educational systems, as well as to the society at large.

Knowledge Management

In recent years, a new phrase - knowledge management - has entered the lexicon. For many in the academic world, this is an old concept, a function historically performed by librarians. However, in the digital information age this term has taken on nuances that point to the need to rethink the old paradigms; to reconsider who the new knowledge management players in the academy might be. According to the experts in this field,

> Knowledge management is the process of transforming information and intellectual assets into enduring value. It connects people with the knowledge that they need to take action, when they need it. In the corporate

> sector, managing knowledge is considered key to achieving breakthrough competitive advantage.[iv]

The key to knowledge management is capturing the knowledge of process - how organisations get their work done - and how various elements of information connect to this. The literature defines two different types of information necessary to accomplish this: explicit and tacit. Explicit information is packaged, easily codified, transferable, and communicable. Tacit knowledge, on the other hand, is personal, context-specific, difficult to formalize, and difficult to communicate and transfer.[v]

Combining these two types of information - using formal and informal information to guide processes - provides the perceived value of knowledge management. The focus is on unraveling individual know-how and applying it to explicitly driven processes so that the right knowledge is available to the right people at the right time.[vi] These interesting concepts are being applied in limited and often modest scale in industrial settings. The commercial world hopes to capture efficiencies knowledge management promises in order to gain competitive market advantage. The knowledge management paradigm has even been referred to as the next "killer application" in that it provides organisations with valuable, credible, and insightful information - a tremendous asset and a unique advantage.[vii] Already companies are generating databases, linkages on web sites, and portals to facilitate the integration of explicit and tacit information, and attempting to gain this advantage. So, the question we might address is whether this paradigm is applicable to higher education, and if so, how it might be applied.

Our academic libraries have focused quite effectively on collecting, organizing and making explicit information/knowledge available. The Web adds an entirely new dimension, however. Explicit information is much more difficult to acquire because of the explosive, bottom-up nature of the Web, and tacit information is equally or perhaps more difficult to obtain because it is buried in web-based links to other sites, databases, and publications. In academia, most of the tacit knowledge associated with an area of study lies with the faculty who study it. The tacit knowledge of a literature may be what characterizes much of the informal, side-conversations at academic conferences, in discussions between graduate students and their mentors, etc. It is precisely this type of knowledge that Brown and Duguid describe so eloquently as they talk about the value-added dimension of an academic community.[viii][ix] However, this information has always been informal, word-of-mouth, and not the province of the library or any other organisational unit. However, in commenting on knowledge management in the university context, Cronin and Davenport suggest that this informal knowledge can be captured by creating a space, and reconstituting the academic village, so that both explicit and tacit information can be combined and shared by faculty.

> The challenge is to design a customized, yet flexible infrastructure that supports both individual and collective learning so the organisation, whether a corporation of a university, can adapt to discontinuous change in its operating environment.[x]

The academic community has been collecting tacit information for years. It has been known as marginalia or annotation, it has taken the form of bookmarks (either physical or electronic), and it most recently has manifested itself in the form of hot-links that connect related Web sites. This tacit information is what one person argued was so valuable as the scribblings and notes that one once found on the backs of the physical cards one used in a library card catalog.[xi] However, for the most part, these have been "tools" or "aids" that are created by the individual, and this information is not systematized, and certainly not available to a broader community. We have already encountered the challenges associated with determining whether linkages are authoritative and legitimate in scholarly inquiry, and unleashing all of these other types of tacit knowledge seems massive, unwieldy, and overwhelming. Why would one even think of such absurdity? The answer lies in the potential increased productivity and innovation that might arise if this information were somehow integrated into the processes of scholarly inquiry. It seems to be this thought that causes Peter Lyman to suggest that higher education is addressing the wrong problem when he states:

> The problem is not how to digitize libraries to deliver information to the desktop and laboratory; the problem is how to create flexible organisations that reach beyond the boundaries of the physical campus.[xii]

Knowledge management in an academic setting must encompass the community of scholars in a given discipline and must be able to integrate publications, data sets, tools for manipulating such data, connections to databases of pictures and images, and much more. Portal technology is being used by corporations to bring together tacit and explicit information in a "push" technology framework. This also should have potential in an academic environment because its ability to help us screen and filter information, to hone in on explicit meanings, and to effectively "push" this filtered information to users. Jerry Campbell has described the nature of the content, the services, the engines and the tools that might theoretically be included in such a "scholar's portal."[xiii]

Much of the focus of knowledge management literature is on competitive advantage, enabling one firm to have a leveraged position over another. In the academic world, however, collegial rather than competitive motivations change the nature and the dynamics of a knowledge management model. While most certainly, the "bragging rights" of having a larger or more comprehensive research library have been used "competitively to try to attract better faculty, for the most part, the culture of the academy is based upon the free flow of information, without competitive concerns.

> Typical knowledge management strategies for business stress the processes of capturing, exploiting, and protecting institutional expertise. - The situation is different for universities, however. Here, the construction of knowledge draws upon an established set of open practices: the scholarly communication system. At the heart of this process lies peer review. When scholars vet their work for publication, they strive to have their ideas as widely disseminated, discussed, and used as possible, including in the classroom, within their disciplinary communities, and in the public sphere. Consulting firms may not routinely broadcast and share information, but these activities are second nature within the academy.[xiv]

So if we are to envision a different set of library resources, perhaps including a knowledge management dimension, what might this look like, and more importantly how might this be created, and by whom? These are some of the questions and challenges facing academic leaders, librarians and scholars as we enter into this new age of information, and as we attempt to transform our organisations.

A Vision

With this discussion of knowledge management and the impact that technology is having on libraries, it is perhaps worthwhile to try to define what precisely it is that we strive for, aspire to, or dream of with regard to online content, access and services in this new electronic era. The vision must include a guarantee of universal electronic access to the collective corpus of our traditional libraries, as well as the inclusion of Web-based materials and other kinds of tacit information already discussed. Another difference is that this access could be available to anyone, not just a chosen few who have access to materials as a function of geography or status.

> **The dream to which we need to aspire is that all scholarly and research publications (including university, governmental, research, and museum sites) be universally available on the Internet in perpetuity.**

It is worth dissecting this statement to make sure that all of the elements are understood. Like all dreams, it may never be completely realized, but the goal should be understood. To try and capture 'all' scholarly and research materials is a mammoth - and na&iumlaut;ve if not impossible - task. However, it is important to try to maximize these materials via a single access point so that the power of electronic search engines, in combination with as complete a collection as possible, might result in full text retrieval of the knowledge of the time. This means more than just scholarly journals. It means access to historical and special collections, to other types of research output, to databases, to museum archives, to governmental data and publications - anything that might have intellectual or academic interest in the future. But it also means a new electronic corpus of information, and it implies that appropriate description and validation of content has occurred.

This dream emphasizes that these resources 'be universally available.' This means that they could be accessed via the Internet, at any time and from any place. This phrase was carefully chosen to emphasize access, but leaving open the issue of cost. These resources first and foremost need to be available. Access may be free, licensed, or available through micro-payments. There are many different economic models and potential players that will have to be included if this dream has any chance of becoming a reality.[xv]

Finally, the dream suggests that these resources be available in perpetuity. This phrase emphasizes the need for a strategy of preserving these resources over the ages. While the challenges of "acid paper" continue to plague librarians of traditional collections, they pale in the light of the challenges of preserving these new digital collections. As a dream of creating a set of library resources that will support education and scholarship in an electronic era, the development and implementation of a coherent plan for preserving these resources is essential. Unfortunately, in our current milieu, this function has largely gone ignored, and knowledge is being lost as a result.

This dream, although articulated in a slightly different fashion, is not particularly new or original. During a series of meetings held in 1994, chief academic officers and librarians from many of our greatest institutions of higher education gathered to share their thoughts on the future of research libraries. Most envisioned a future with universal access, by students and faculty, to information in all possible media via a single, multifunction workstation. This vision was shared by our universities' technology leaders, as well as by many faculty who anticipate new and exciting methods of instruction allowing students to integrate the knowledge of the ages. However, these conferences also found another commonality - "that of not having any plan or vision on how we might achieve this dream and get from here to there!"

There still is no plan on how to get there, and the scope and enormity of the set of tasks involved are so daunting, the common reaction seems to be to wring one's hands, affirm the dream, and hope that someone else will address this critical problem. Developing a plan - or more aptly, a set of plans - to address these critical issues is necessary. Achievement of this dream includes a number of major efforts, each of which would need to be systematically explored, and addressed to cope with the transformative changes affecting the university, the academic library, and the world of scholarly inquiry. For the sake of example, let us take the issues of knowledge management and the new challenges of describing and validating content, and make an initial attempt to define some of the missing elements and to define courses of action that might lead to the fulfillment of the dream in this one arena.

Current Challenges and a Possible Direction

In the print-only world, there has been a complex but well-defined system of content validation and description that involves librarians, referees, reviewers and publishers. After going through the various defined processes, its selection gave that material a legitimacy that students and scholars came to depend upon. Furthermore, technological advances and collaborative efforts have allowed the costs of this process to be reduced through shared electronic cataloging (e.g. OCLC) and through the purchase or licensing of abstracting and indexing electronic databases. Librarians recognized ages ago that the only scalable and affordable approach to such processes was to take advantage of leveraged and shared resources.

The rise of electronic information resources freely accessible through the Internet has disrupted this relatively efficient system in a number of ways. There is no clear and defined role for libraries with regard to the selection, preservation and provision of access in regard to the digital resources accessible through the net. Additionally, students and faculty have a need to learn how to evaluate these new information resources, and it is far more difficult to do so on the Web than it has been in a traditional library. With a traditional library, the very fact that a book or a journal was held by a library represented a conscious set of decisions about the validity of the information, and implied a filtering process that suggested a reasonable level of legitimacy. This is not true when one surfs the Web. Another problem is that of scale, as some libraries, academic departments, and even individual scholars are creating their own collections of Web sites, selecting and describing network resources they find useful and credible. In some cases these resources are even added to centralized databases, but the combination of the growth of the web, and the lack of scalability of these individual, highly labor intensive approaches do not make such efforts a viable or affordable means of addressing this important challenge. There is some hope on the horizon in dealing with some of these issues, as there are some newly emerging, shared (and hence leveraged) cataloging resources such as OCLC's Cooperative Online Resource Catalogue (CORC) project, and the subject gateways being established by the ROADS project in the UK.

Currently, scholars trying to thoroughly research an area have to go to a library to do the traditional search process and then do an electronic search of the web and other electronic resources. This also implies that these people doing this searching have the ability to discern the quality, authenticity and validity of the information that they find on the web. Of greatest concern, is that a student might go just to the Web, either assuming that the information available there is complete and accurate, or assuming that the Web alone provides an adequate search. There is plenty of reason to believe that students today and in the future will fall into this trap, because their preferred method of working is to do everything online. While everything possible should be done to educate students and others that each of these two different approaches has its own respective merits, it is unrealistic to think that such educational efforts will be successful with the vast majority of students who have grown up with the Web.

Another problem with the Web today is the nature of the various search engines such as Yahoo! and Altavista. While such services offer far wider coverage than any traditional cataloging approach can possibly match, they do so with far less quality, filtering and a very different, often less powerful, level of description. A search using one of these engines may yield a half million or more hits. These search engines are also tainted by a bias in the selection process rooted in their commercial advertising relationships, rather than solely on the search parameters. Most users don't use or know how to use their advanced features and the more sophisticated search algorithms embedded in these highly used applications. Consequently, they search virtually the entire web. In summary, in the current environment and with the current tools, we are left with incomplete information, little if any organisation, and rudimentary, inefficient and often inaccurate searching. The current electronic environment, however, does offer the advantage of being able to provide an interesting set of "reference" services, such as those found on Amazon.com, offering reviews and related or recommended materials in association with the material for which the user was searching. These services are increasingly being perceived as a value to scholars, and academic libraries need to think through the relationship between their own service offerings and these other commercial services.

If we return to the notion of "the dream" mentioned earlier, we find ourselves conceiving of a system of a selected set of academically viable resources, with some validation of the authenticity of the content, and for which students and faculty would be provided with a more legitimate process for selecting and finding information. In the print-on-paper world, this filtering has been provided by our libraries. Librarians have made selections of legitimate works, thus freeing this responsibility from end users. The broader higher education community can continue to depend upon the presently available search engines with their associated limitations, or a new point of entree can be developed, i.e. a portal with selected sources, better search tools, and a validated set of resources. Such a portal could address many of the problems and limitations already discussed by providing an appropriate inventory of resources, necessary descriptors, and an associated search engine.

Ideally, a search engine is needed that focuses exclusively on Web sites, data sets, video clips, and other source material deemed to have academic value by an appropriate professional. These materials need to be collected and brought together, through the use of a common interface, a concept similar to the one being employed by the OCLC CORC project. The hundreds of thousands of web sites that presently "feed" our current search engines need to be filtered, identifying those that have legitimate value and including them for preservation in much the same way that a traditional library collection is assembled. Such a sophisticated search engine would provide complex Boolean logic and search algorithms that are the equivalent of modern library search engines. Over the long term, this process should develop a collection with the same degree of "reasonable completeness" associated with a good library.

A second requirement for such an engine includes the development and application of systematic standards in the definition of metadata, cross reference information, and other important identifiers necessary to do more complex searching. In essence, what is needed is a dynamic MARC record, and a set of cataloging protocols and agreed upon conventions necessary for the description and identification of information in any number of media.

In dreaming about what such a search engine might do, it is important to simultaneously consider who might use such a set of tools, so that a practical plan can be developed. The potential market for this service could be quite large, and go well beyond the higher education community. Most assuredly, it would include college students, faculty and staff. It would also include the world of research professionals outside of higher education, (including research institutes, corporate research and development professionals); those involved with cultural heritage organisations, such as museums and galleries; and workers in government, public libraries, and the public schools. Members of the general population who want to use the Internet to obtain more sophisticated information might also be included. This latter group can perhaps be stereotyped by the category of people who read the New York Times book review, or who want to actively help their children do better in school, etc.

If the market for such a set of services goes well beyond research universities, or even the higher education community, then it is fair to assume such services might present a viable opportunity for a commercial enterprise. An existing or new company with the necessary seed capital and business acumen to develop such an effort might provide a much better and more long-term solution, than would yet another fragmented approach by higher education. Importantly, such a "private" approach could spread the costs of the project over a much larger audience, hence reducing the unit cost that would be needed if this were just a higher education enterprise.

Advertising could provide a significant source of revenue to support such an effort. The market for these services - educated, upwardly mobile - is highly sought after. By attracting a large number of these well-educated "eyes" to a particular site, the objective of many very successful portals today. If this were not found to be objectionable by many of the purists who inhabit this marketplace, it is even possible that these services could be made available for a nominal or even non-existent price.

A not-for-profit corporation run in concert with a number of higher education institutions or associations, or a private, commercial enterprise in concert with members of the academic community offer two models for such an initiative. In either case, it needs to be operated as an actual business, involving professionals in the areas of management and marketing so that an efficient business operation can be established. This "business" approach is in contrast to the all-too-common history of projects that have been run ineffectively by individual campuses. This "business" approach also would to assure that this effort could be sustained over the long term. To the degree possible, the first exploration of alternatives should reside with partners that have proven track records of working collaboratively with higher education, such as OCLC.

The creation of such a "business" would require some significant seed capital to begin the collection and cataloging of the information sources. This effort would be a very large undertaking, and would require a sizeable number of qualified librarians and other professionals. Venture capital might be raised from traditional sources, or a group of well-endowed universities might provide the seed money and be stakeholders in the enterprise. The "product" that is developed could either be purchased or licensed directly by an end user, or it might be licensed to another portal company to add value to the partner portal site, thus providing an additional income stream.

Such a portal also would provide access to the tacit information discussed earlier in relation to knowledge management.. Referrals and reviews such as those provided by Amazon.com could provide a significant added dimension. Web-based information could be screened and informative links to other sites, critiques, reviews, and related information could be included. If this capacity existed technically, it would be possible for communities of interest to emerge in specific disciplinary areas, thus enlarging and codifying the tacit information that experts in the area of knowledge management argue is so essential.

However, such a vision implies that those responsible for this new environment include, but go beyond the library community. It implies the active involvement of faculty and scholars in many different areas of study. In an ideal world, the organisation responsible for creating this environment would develop collaborative relationships with the academic community in higher education. To the degree that institutions, libraries and faculty co-operated with this group, the larger the collection would become, and the sooner it would become truly viable. In terms of the cataloging for example, once appropriate and acceptable standards were defined, the cataloging could be pushed "down-stream" and shared in much the fashion that the cataloging of books is presently done.

In discussing knowledge management in a higher education setting, Peter Lyman emphasizes several dimensions of infrastructure that would be required to make this new kind of educational e-commerce actually work. He then goes on to say that:

> This infrastructure, of course, is only a means; the more difficult problem is the discovery that strategic problems require collaborative solutions and the will to innovate.[xvi]

This point cannot be emphasized strongly enough, although this ability to truly collaborate is perhaps one of the greatest challenges (and weaknesses!) facing higher education today.

Collaboration

In an article totally unrelated to higher education, Andrea Youngdahl describes and makes distinctions between three concepts that are all too often used synonymously. She suggests there are fundamental differences between co-operation, co-ordination, and collaboration.[xvii] These three levels of involvement present an important challenge to the manner in which institutions of higher education interact with one another. She suggests that co-operation is an informal - often superficial - level of co-operation. It involves information sharing, serving on committees together, and yet allowing the participants to fundamentally stay separate and to continue to function an a completely autonomous manner. Co-ordination, she describes as having a more mutual level of commitment. Co-ordination involves actual resource sharing, filling in the gaps that the participants would not be able to accommodate individually, and adapting and accommodating differences in order to achieve a goal. Finally, she focuses on collaboration which she suggests involves a synergistic - not an additive - solution. This collaborative model requires the actual commitment and investment of resources, based on a shared vision. Collaboration is not competitive, but rather a new formulation that creates a new community. It is precisely this new kind of collaboration that institutions of higher education need to adopt if they are to be viable in the future, and it is this kind of collaboration that has been suggested in addressing some of critical library problems earlier in this paper.

Many colleges and universities are attempting to develop their own distributed learning environments. Yet the cost and complexity of such stand-alone structures - along with the very real challenge that academic institutions lack the necessary nimbleness, flexibility and responsiveness needed in order to be competitive - will almost certainly serve as a significant barrier to individualized solutions. Collaboration among institutions will become increasingly essential. So far, few entrants have attempted to develop a broad-ranging curriculum that would qualify as a liberal arts education. For this reason, collective action and other consortial efforts drawing on faculty and resources from many institutions will likely be the most successful models. This same pattern is likely to require collaboration in issues related to operations, student services, support structures, etc.

Those in higher education have long assumed that not-for-profit educational efforts result in a higher-quality product than commercial efforts. Yet institutions need to throw off their defensiveness, question this assumption, and embrace the fact that partnerships between and among for-profit and traditional institutions may be some of the most successful models for creating and delivering these new learning environments.

Higher education regularly backs away from collaborative relationships for a range of traditional reasons: institutional pride; the "not invented here" syndrome; the pursuit of control (no matter how illusory that concept has become!); the steadfast opinion that "my campus is unique; and the wistful desire for the way things used to be. Up until now, we have unfortunately approached collaboration as something we did (or should do) after we got done doing our primary business. In essence we thought of collaboration as an avocational approach. The challenges that we face today with the speed of change, and the transformations that are overtaking us, call for us to firmly come to grips with the notion that collaboration is the only means of competitive survival.

Can higher education learn to effectively "partner" with other not-for-profit and with for-profit ventures? Its track record so far is not good. Effective online learning models will rely heavily on collaboration with external entities, as will any solutions to effectively deal with libraries and sharing information resources electronically. If higher education develops that ability, new opportunities and new leveraging will result, increasing the likelihood of success. Yet the jury is still out on whether our institutions can develop these skills. We may continue to bungle along in a "go-it-alone" mode as we have in the past - all to our collective long-term detriment. In this new networked world in which we live, collaboration is a common theme that will need to be embraced!

Conclusion

As William Plater said in his essay, The Labyrinth of the Wide World, "More than any other traditional asset, the library is the means by which American universities will transform themselves into something entirely new."[xviii] The discussion in this paper focuses not on just what might be, but how we might go about inventing a part of the future and part of the "something entirely new" to which Plater refers. This is a key part of understanding and providing for our consumer's needs, be they students or faculty. The community needs to keep its collective eye on the objective, that of making the dream that was described earlier in this paper come true, namely that of having intellectual and aesthetic information easily available via the network and preserved for the digital age. However, at the same time, the process of getting there will be fraught with obstacles.

> Ironically, the strongest barriers to creating an affordable and efficient array of digital information resources are the existing organisational and financial structures that have created and supported the development of our internationally admired higher education system.[xix]

This new conceptualization of the library, of the information resource environment, and of the university itself are all works in progress. All of this implies new kinds of information, new structures, the breaking down of the old stovepipes that characterize our organisational structures, and new forms of collaboration. The discussion in this paper attempted to identify some of the trends and a possible direction that might be pursued to address one of the five major barriers to achieving the dream that was identified. Jim Duderstadt, the former president of the University of Michigan captures the challenge before us with great erudition, as he states:

> " - the real question is not whether higher education will be transformed, but rather how - and by whom. If the university is capable of transforming itself to respond to the needs of a culture of learning, then what is currently perceived as the challenge of change may, in fact, become the opportunity for an age of enlightenment in higher education for the years ahead.[xx]

We all need to become active participants in defining this new transformed environment, but that will only occur if we can reach out across the boundaries of our own institutions, across the oceans, and across other artificial boundaries that inhibit an active community of scholars supporting each other. It will only occur if we have courage enough to utilize new business models and to participate with new partners in this process. Only though a new spirit of collaboration can we successfully adapt to the transformative change that surrounds us in this new digital era.

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Proceedings

The Impact of Change at the Melbourne University Library

Helen Hayes

In this discussion paper I will address the trends including the political and economic pressures that are changing the shape of higher education; the University of Melbourne's response to this environment and the new information services that have emerged to meet the changing needs of the university.

Never have universities faced such enormous challenges as they do today. After 900 years of conducting business in much the same way we find that all our traditional assumptions are being challenged. Some of the trends in this environment are the growth of the adult student market, expanding opportunities to serve students outside Australia, the rise of internet-based learning and substantial new competition. Less than 5 years ago we could not have imagined that the University of Phoenix would become a hugely profitable business without the need for a campus, where enrolments would rise by 22 percent in one year to over 75,000 students currently. Nor would we have imagined a Motorola University or a Disney University. This market has brought new types of universities such as Barnes&Nobel.com which announced in June this year an online university for its customers with different modus operandi from traditional universities not unlike not Harvard.com and Learning Brands which offer "how to" courses online. Another new competitor is the London based Pearson PLC, a company that also publishes the Financial Times. FTKnowledge, a subsidiary of Pearson produces corporate education programs and is involved with business schools at several universities including the University of Cambridge who announced on August 4, 2000 that it will deliver an executive MBA in collaboration with Pearson and will split the fees 50-50.

Global Economic and Political Pressure

Goldie Blumensyk in the Chronicle of Higher Education writes "Higher Education is now a hot commodity in business circles that means that every educational publisher along with an assortment of commercial education companies and upstart dot.com businesses is angling to develop strategies that will win it a bigger piece of the education spending pie".

David Collis, a professor of management at Yale University says about such companies as Pearson "they can take away the profitable parts of the market in higher education leaving institutions with less overall to work with." He also expresses concern that "the competition - if in fact a credible alternative at a lower price - could make it harder for institutions to justify what they've been spending to produce similar kinds of programs".

According to the Gartner Group this economic and political pressure and competition will force educational providers to deliver more than 75 percent of their educational content electronically by 2005. They predict that distributed learning, e-business and e-learning have become more important to colleges and universities around the globe. They believe that institutions that fail to capitalise on these emerging technologies may find themselves at a serious disadvantage when recruiting faculty, staff and students.

In this environment we have the opportunity to become a lot more than we are now - or, a lot less. Information technology has created new opportunities for market share and increased the risk that if we rely on past experience we will increase our margin of error. There is little patience in this environment where external pressures are distorting the pace of change and universities world-wide are repositioning to find new markets, brand their services to attract students and enhance the quality and relevance of their programs and to embrace new paradigms which support the delivery of more flexible, more exciting and interactive learning opportunities than every before. These changes must occur in a highly constrained operating environment where reduced public funding, greater student numbers, fierce competition and the need to re-equip and reskill staff are adding to the challenges we are faced with. To ensure that we are able to take advantage of these new opportunities it is essential that we challenge our existing models.

The University of Melbourne Response

These changes have led the University of Melbourne to reorganise, restructure and redesign its entire central administration. The aim has been to create a more cohesive group which is able to interact and intersect to better meet the needs of the university's strategic agenda in a more holistic way than previously. In this restructure our planning ensures that we all have a common understanding of our preferred future and the programs needed to get there.

The administration needs to work collaboratively to meet the expectations of the e-generation. These students expect to enrol easily, check exam results, submit essays, access electronic information, reserve books, check timetables, receive email, talk to tutors, revise lectures, undertake interactive tutorials on a 24 x 7 basis online. They expect the services they receive to be customised to their needs and that the protocols for accessing information will be easy to use. All interactions need to be seamless, flexible and efficient.

A further reason for the restructure of the university's administration was the desire to consolidate overlapping functions and develop new services which are better adapted to the online environment.

A Converged Service

Within this context a decision was taken to integrate the Library, Information Technology Services and the Multimedia Education Unit, acknowledging the critical role of information, teaching, learning, research and administration. The library had already gone through many changes before this, but none which would totally change the way we do business. The three former departments, along with a section of the Property and Buildings Department, which was responsible for maintaining centrally allocated teaching spaces, joined together in six new teams, reflecting the key strategic needs of the university's agenda. Each team has professionals and is dependent each on the other teams to achieve support to the academic program which will ensure that the student experience is stimulating, intuitive, sustainable and connects members of the university to be the best that is known and thought world-wide. Our vision for the division is simple but challenging.

"That all members of the university will be able to access sophisticated information easily and well". We aim to achieve this in three ways - through strategies which achieve:

1. Connectivity - efficient access to information management systems
2. Content - information and products for research, learning and administration
3. Competence - enhancing and developing skills of members of the university for information literacy, information technology and multimedia applications.

That is, staff and students must have access to sophisticated knowledge through their ability to apply technical and literacy skills. Technology and intelligence are two key factors in the success of new age organisations in the Knowledge Economy.

This structural change has involved all of our library and information staff in taking part in the creation of a new vision for the Division. We have all had to give up existing functions and roles and commit to a new organisation with new partners. Our leaders have had to model their commitment to a very different future. It has required outstanding team skills, by all members of the Division to accept other cultures which was one of the early challenges in the change process. The organisational change has involved around 20% of our staff moving into entirely new roles and everyone's role has changed in some way. The six teams which have evolved out of a yearlong planning process are:

1. **Client Services** - to provide front line Information Services to the university community.
2. **Teaching, Learning and Research Support** - to provide services to academic departments and their students to support research, evaluation, flexible learning, information literacy, courseware development and production and to provide training and development in effective use of educational technologies.
3. **Corporate Information Systems and IT Infrastructure** - to provide those central computer-based systems, networks and telecommunication services the university needs to fulfil its mission.
4. **Information and Resources Access** - to identify, acquire and provide access to information resources in support of the university's academic programs.
5. **IT Strategies and Developments** - to identify and promote emerging technologies to support the use of IT for the strategic advantage of the university.
6. **Business Management Unit** - to support all of the Division through efficient, responsive and contemporary business management support functions.

The aim of the restructure is to direct efforts to a working model which will develop strong leadership teams to achieve tasks. We hope to encourage efficiency, innovation and creative teamwork while reducing hierarchy and bureaucracy which stifles momentum. The restructure will allow us to move resources to support flexible learning, online content, skills enhancement and the exploitation of new technologies in ways that the previous structure could not. The University's Vice-Chancellor, Professor Alan Gilbert, recognised that one of our key roles is to provide a campus learning environment which matches and is better than any online learning environment. Combining the richness and the person to person intellectual and social interaction of a campus-based community with a technology-enhanced infrastructure including electronic bulletin boards, networked audio video and graphics, computer mediated instruction, discussion lists and numerous web-based services used for the exchange of scholarly communication.

We aim through this merger of information technology, multimedia and libraries to ensure better integration of content and connectivity, less duplication of resources and greater sharing of ideas and initiatives leading to greater creativity. Librarians need technology, the computer network and technical expertise while information technology staff can learn from librarians about how information is organised and their understanding of customer needs. Each group has brought their own skills and attributes to the Division. The senior library staff have good planning and accountability systems with an excellent understanding of quality management practices while IT staff have brought good project management skills, and a practical "can do" "approach to day to day problems. Multimedia staff have good pedagogical skills, a knowledge of academic needs and priorities and a useful glossary of terms of the non-managerial kind.

The Challenge: transforming teaching and learning

Although there are discernible differences between the groups, the roles of all three professions are blurring and new roles are merging which combine all three skills sets, for example, people who organise Web content, creators of gateways, people who mine electronic information, electronic publication design, intellectual property managers and so on. All information staff are expected to work closely with academic staff increasingly with a physical presence inside Faculty buildings discussing course goals, identifying electronic and print resources that can link to Web pages, discussing information literacy and information technology needs and offering multimedia options. Information staff provide access to and assistance with multimedia workstations where members of the university can explore Web technologies and develop new models of publishing with multimedia software. A new model of services has recently opened in the Baillieu library. Sometimes referred to as an "Information Commons" this is where staff and students can access information technology through multifunction workstations. The Percy Baxter Collaborative Learning Centre requires the skills of library staff, information technology and multimedia staff and models one of the first positive outcomes of the restructure.

The evolution of the Information Division has required some fine tuning along the way and we know that what we have created to day will need to be reassessed against emerging technologies with the university's developing teaching, learning and research needs. New services will be needed and we will need to continue to let go programs that are not helping to drive the university's strategic agenda. Changing our business to provide more flexible modes of support and information access requires constant planning and replanning. We will need to look further in to the future taking into account external and internal influences on our environment to provide the leadership that is needed in information provision of the university. According to Deming excellent leadership and continuous learning are the keys to managing change and developing an innovative culture.

To ensure that we are able to constantly adjust our sails we will need to develop and support a culture of continuous improvement, change and innovation. This requires clear direction from our leaders and management which enables the direction to be adopted at all levels by groups through operational plans and by individuals who are valued for their contribution. By creating a learning environment we will enable change to occur. We must continue to encourage innovative practices, allow the freedom for our staff to test assumptions and foster incremental and breakthrough improvement, allow staff to make decision about their own work and have a go recognising that mistakes are valuable learning experiences.

We broke the mould when we created six fluid teams from three separate and distinct departments and by doing so we have created an environment where nothing can remain as it was or as it is today.

It is too early to measure our success but we have a strategy and we have set ourselves exciting goals which we hope will make us critical to the success for the academic program of the university and the information infrastructure which underpins it.

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Proceedings

Cultural Exploration: Publishing the Donald Friend Diaries

Paul Hetherington

In what is often talked about as an age of new technologies, there are many different ways to publish. We have heard in today's session about the opportunities provided to publishers by the Internet, and about changing relationships between publishers and 'creators' - and about changing patterns of scholarship. We have heard about how information is being distributed differently than it once was.

These changes promise new possibilities, and new freedoms for publishers and creators alike. Because information in electronic form is very portable, it can also be used flexibly. Just click on the button of an email, or type a URL, and information passes inwards or outwards at extraordinary speed. Web sites fly through the ether, defying international boundaries, institutional frameworks, social taboos. Books appear on screen, some with sophisticated illustrations, and are able to be downloaded quickly, directly to the reader. What's more, much of this information is inexpensive or even free.

So what does this mean for so-called traditional or conventional publishing? (I should mention here that publishing traditions and conventions are changing in many ways all of the time, but that is another story for another paper).

I think that the advent of the Internet means very little for the book, the death of which has been predicted many times, but which is selling in ever-greater numbers world-wide. While the Internet holds the promise of new ways of doing and, perhaps, of thinking, the book will remain unchallenged as the premier vehicle for delivering a great deal of what we all like to read. In many cases, however, the book, the Internet site and the exhibition will sit side by side - not as competing vehicles for information delivery, but as complementary strategies for providing access to complex cultural material.

Today I would like to give one example of what I mean - which will take the form of some brief reflections about a very complex project that the National Library of Australia has embarked upon.

This is the project to publish an edited version of the 44 Donald Friend diaries, held by the National Library. In the limited time available to me today, I can only touch on this project's intricacies, so the slides that accompany this presentation will give an indication of the nature and quality of the drawings in the Donald Friend diaries.

I should add, however, that there are about a million words in the diaries - as well as the more than 500 drawings - and they are magnificent, incisive, meditative, suggestive, illuminating words. They represent the personal vision of an important Australian artist, but they also document Australian culture from the 1930s through to the 1980s in fascinating ways. In this sense, they are a particular and compelling, although partial, record of our nation.

Here, for example, is a quote from the diaries about some of the attitudes in Australia in the 1940s.

> Recently much amusement was caused by a policeman who in evidence said that he considered the nude paintings in the National Gallery to be obscene. I wouldn't mind betting that a large proportion of the population agreed with him. One of our least advertised but prominent, national characteristics is wowserism. I recall the letter written to the *Herald* suggesting that the nude bronze centrepiece of the Archibald Fountain should be draped in bathing trunks in the interests of public decency. Also

> another 'mother of nine' epistle to the press, in which a harassed matron complained that when she took the children to the gallery one Sunday, she was constantly obliged to dash past whole walls of pictures that would have lost her brood their innocence and perverted their morals at a single glance. Perhaps the most ridiculously silly example of this prudery occurred in the nineteen thirties, when a collection of paintings by Modigliani and other masters of the modern French school was banned for public exhibition, because a law exists that nude paintings or statues showing any pubic hair may not be shown publicly. The idea is so fantastically totemist. Why not forbid the portrayal of lips, or noses or hips or backsides?

Making the Donald Friend diaries accessible to readers who use the Manuscript Reading Room in the Library building in Canberra is a simple enough task. Lending a few of the diaries for exhibitions held in other institutions throughout Australia is also easy enough to do - within certain limitations. What is much more difficult is to formulate successful ways of publishing the diaries so that they will be widely available while simultaneously providing an adequate representation of their subtlety and complexity.

Publishing facsimiles of the diaries is not the answer. Such facsimile publications would be prohibitively expensive to produce in the first place, and very few people would be able to afford to buy such volumes once they were published. In any case, with 44 diaries, there are too many to publish in this way.

Another way of publishing this material would be to invite a commercial publisher to put a book, or books, of diary material together for the Library. There are fine publishers in Australia that would no doubt be delighted to undertake such a task, but there are potential impediments to any such arrangement.

The difficulties in publishing this material are of a number of kinds. The diaries have been microfilmed, but they are yet to be transcribed. Choosing and editing 700-800,000 words for publication will take at least two years of an editor's time. The cost of publishing the selected diary material in books that will last is very considerable. And there are a number of other issues that I do not have time to explore today. Added together, this project has costs and complexities that few commercial publishers would be likely to embrace.

Further, the task of editing the diaries - of choosing material for publication, of researching references, and compiling a final text for publication - is extraordinarily involved and demanding. It is also a rather overwhelming and unpredictable task - a kind of ongoing adventure, with many questions to be solved along the way. Success in this enterprise lies in a close and trusting relationship between the editor of the diaries and the Library as custodian of this material. This is not, fundamentally, a commercial relationship. It is, rather, a cultural exploration of a particularly fascinating and complex kind.

The Library has engaged Dr Anna Gray as editor for this project. She brings to this task the qualities of a highly skilled professional editor, conversant with contemporary publishing practices. She brings the knowledge of an expert art historian and curator, and the skills of a social historian. Importantly, she has a sophisticated 'feel' for the nuances of Donald Friend's highly literate and 'literary' language.

For, perhaps above all else, in his diaries Donald Friend created himself as a great writer - as a chronicler of his times and as a subtle stylist. His command of language in the diaries is superb and his writing is extraordinarily various. Let me quote the following passage:

> I am rather furious with myself at the moment. I have the opportunity to write and an empty mind - or rather a mind full of unrelated stuff with no focal point, comments on this and that with no relation to the day and hour. This is a ghastly waste. There is nothing to do but sit in the pale afternoon sun and improvise until I think of something. You see, I have not lost one whit the obsession that has given an urgency to everything for this last year and a half - the feeling that each hour may be my last of leisure and privacy. So at such times as this, when I have time to set down something

> which will preserve my shape for the future, and yet am oppressed by mental inertia, are an exasperating torture. One somehow feels that by recording all these trivial things they are somehow given permanence and body. Why should it matter at all? Why bother to give a lasting (how can one even know it will last?) form to the jiggle of memories and comments, so that other people at other times can read what I was thinking about, and what I knew. Well it is futile. But anyway I do it. I try to tell myself I do it entirely to satisfy myself; but at its best, that is only half true. If I were doing that I'd probably invent a complete language of my own, and go the whole hog and write down *everything* - but everything. And such a record would turn white the hairs of he who read it, as do all stupendous experiences, such as hanging all night over a chasm suspended by a rope that is slowly being sawed through. And furthermore, I am lonely enough without indulging in such an extreme introversion.

This is marvellous writing - evocative, analytical, charged with feeling and beautifully composed. It also gives us some of Friend's own thoughts about writing his diaries. Dr Anna Gray has to read over one million of these words and to select about 70 to 80 per cent for publication in four volumes, the first of which will be published next year.

And this brings me back to the overall publishing strategy of the Library where these diaries are concerned. The Library's *Directions for 2000-2002* document says, in part, that in order to

> - foster a broad understanding of the importance of libraries, and of the National Library in particular, and to communicate the value of the Library in underpinning Australia's cultural and intellectual life, [the Library] will
>
> - selectively interpret the Library's collections in order to contribute to an understanding of Australian history and culture
> - promote knowledge and use of the Library's resources

In the case of these diaries, such selective interpretation and publication will provide access to a very important set of items in the Manuscripts Collection. The Library intends to make the diaries available in five books - a high quality book of drawings compiled by Lou Klepac, which will be released in December of this year (you can see some of these drawings in the slides that I have am showing today) and the four volumes of selections from the diaries edited by Dr Gray.

These four volumes will be illustrated but will be published in a smaller format than the single book of drawings. All five of these books will be published to the highest possible standards and will be available on the general market through booksellers across the country, combining the Library's reverence and care for its collections with its wish to make this material as widely accessible as possible. The Library is fortunate in being able to fund these publications through its Morris West Trust Fund and revenue from these books will, in turn, be returned to the Fund.

As well, the Library is planning a major exhibition of the diaries in 2002 and - to return at last to new methods of publication - an extensive web site that will allow world-wide access to parts of the diaries, and which will also be enhanced by a variety of links to related web sites, along with additional material related to Donald Friend's life and work.

Only through this strategy, which will employ both new and old means of publication, does the Library believe that it will be able to do full justice to the Donald Friend diaries in terms of both research and accessibility. Commercial partners may join the Library in parts of this enterprise, but the Library will ensure that it maintains appropriate control of the main publishing projects.

In more general terms, then, publication of the diaries illustrates some of the responsibilities and issues that attend to the Library's important role (in association with other cultural heritage institutions) in keeping and making available the nation's memory. In large part, this is the memory of Australia's developing and dynamic culture, and of the activities of individuals within that culture. It is the memory of our society, of our politics, and of our attitudes towards ourselves and others.

Such memory - such *remembering* - is crucial to maintaining and continuing to reinvent and renew an understanding of ourselves as a people. In a profound sense, our histories are our future, because it is through the records of our pasts, and the metaphors that we make from them, that we can glimpse futures for ourselves and imagine new possibilities and new pathways.

This is only true if what is stored is made visible; if what is preserved is made available. Without access - and access can be provided in many different ways (publishing is only one of many options) - the nation's collections would only be so many remains in a mausoleum. Access is critical.

Publishing the Donald Friend diaries is one way of embodying the Library's mission to provide knowledge of its collections to as wide an audience as possible, and to contribute actively to the nation's cultural life. It is a task which transcends any specific media, or publishing vehicle and which will employ old and new technologies; old and new methods; old and new purposes and judgements. What is most important is the material itself and its availability. Donald Friend's vision in his diaries, compelling and inventive as it is, both private and public as it must be - will soon touch all of us.

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Views of Technology Futures

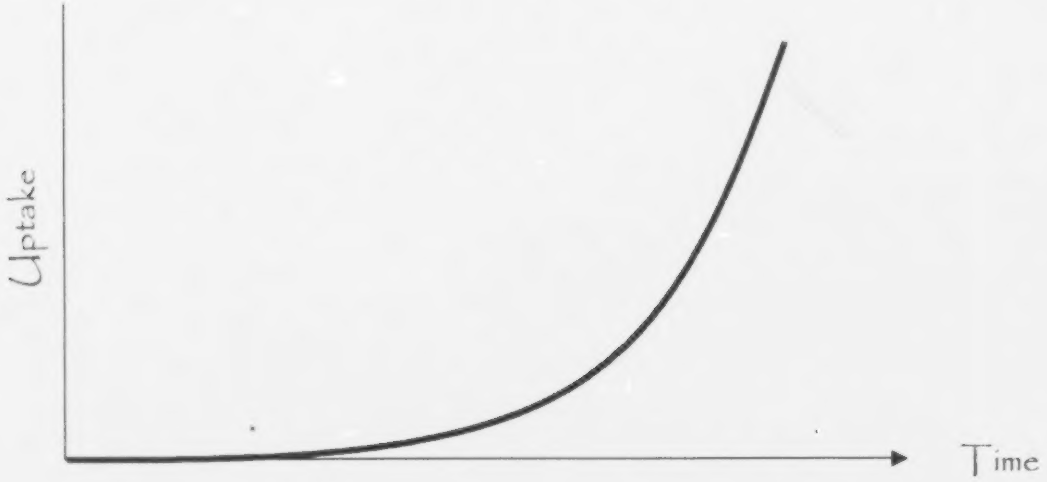
An Internet Perspective

Geoff Huston
Internet Society
October 2000

The Phases of Technology Adoption

1 - The Shock of the New

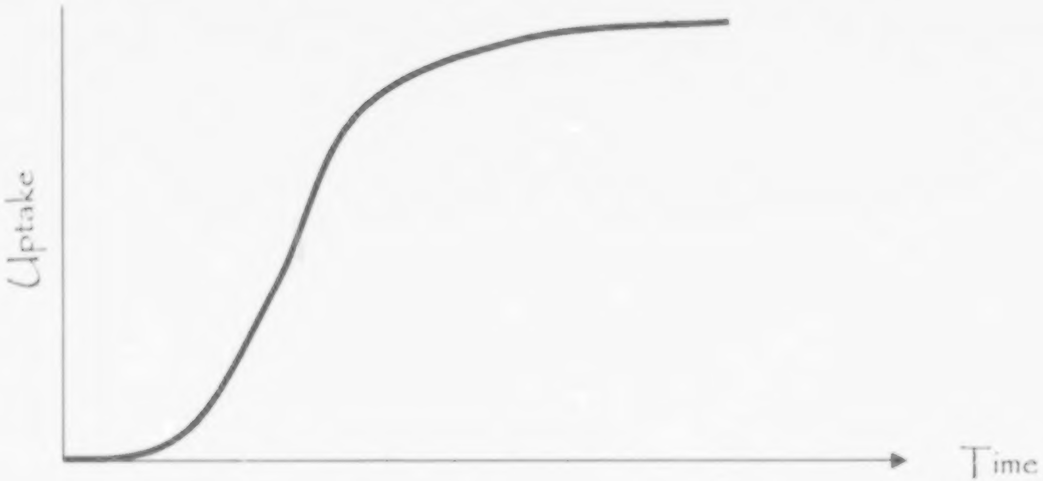
- Escalating uptake
- Disruptive impact on existing services



The Phases of Technology Adoption

2 - Market Saturation

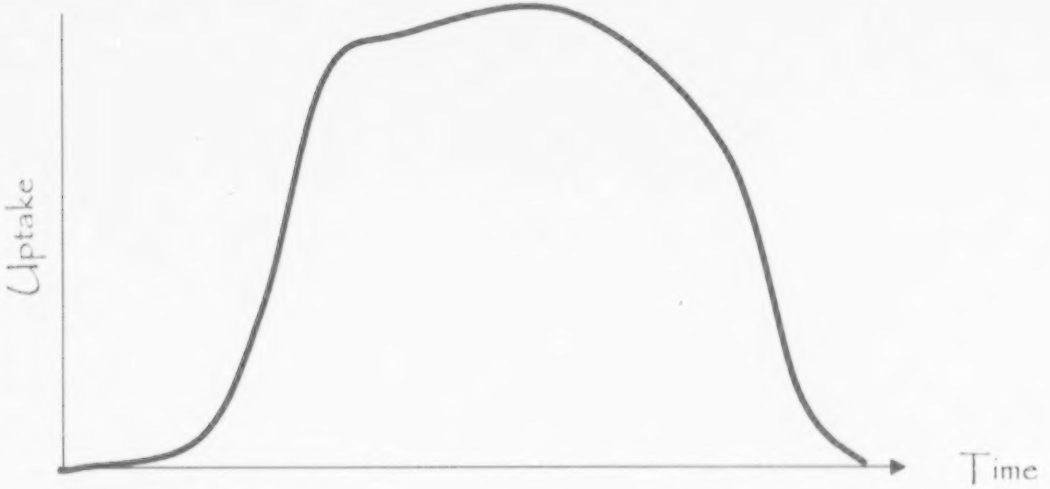
- Uptake level slows as it maps changes population and relative wealth



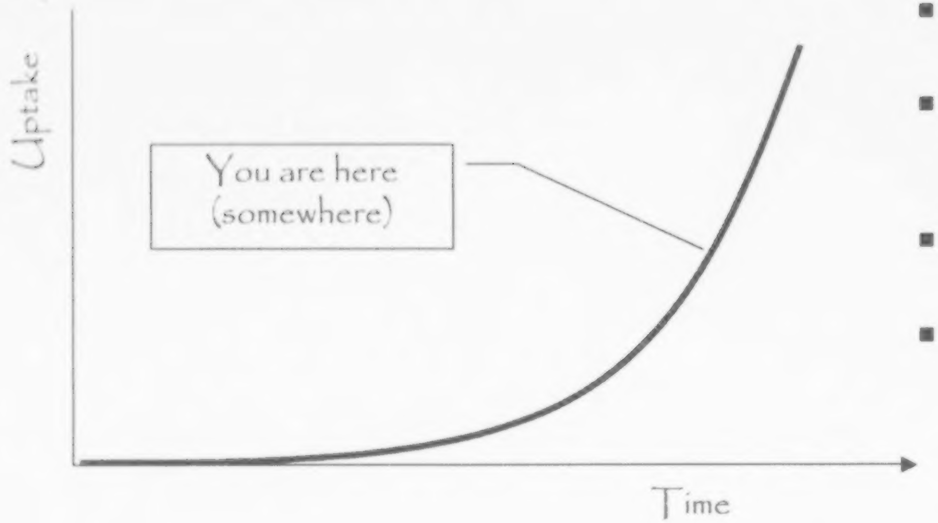
The Phases of Technology Adoption

3 – Obsolescence

Technology is displaced by alternative offerings



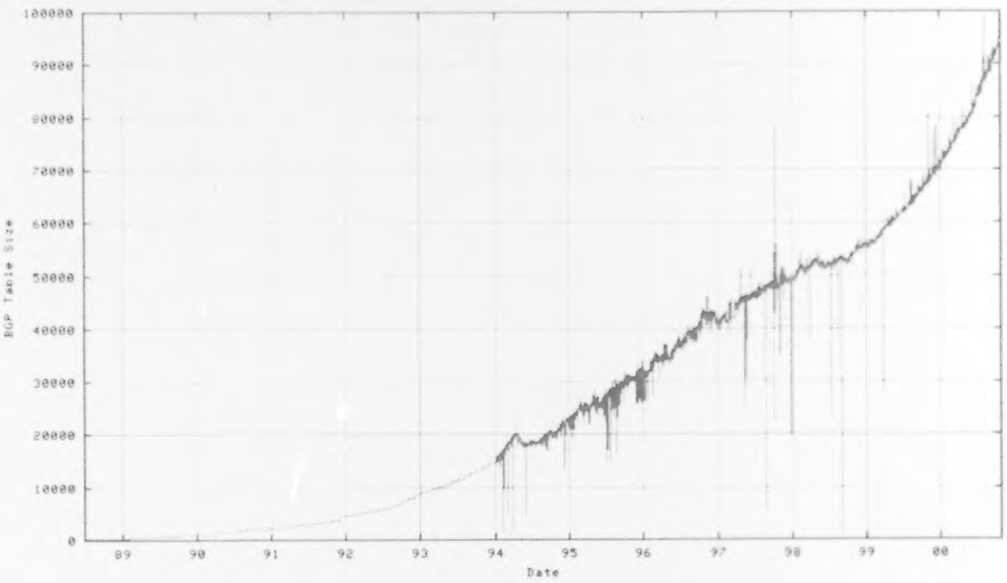
The Internet Today



- Still in the mode of rapid uptake with disruptive external effects on related activities
- No visible sign of market saturation
- Continual expansion into new services and markets
- No fixed service model
- Changing supply models and supplier industries

The Internet Today

- No visible signs of demand saturation
- Current growth levels have been sustained for over two decades



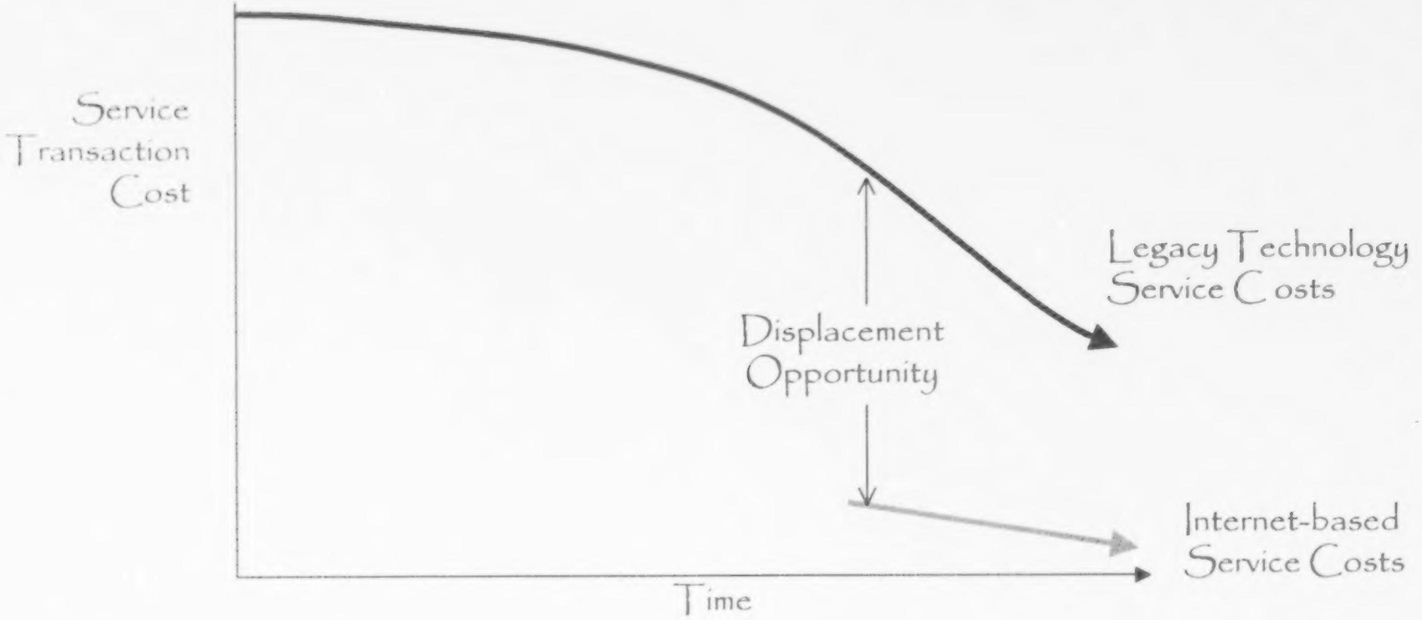
WHY the Internet?

- A new network model: Dumb Network – Smart Devices
- The Internet is simply a collection of packet switches linked together by transmission elements:
    - Packets can be queued
    - Packets can be lost
    - There is no end-to-end time coupling and there is no end-to-end reliability coupling.
- This allows an Internet network to use basic and cheap transmission elements and basic and cheap packet switches.

WHY the Internet?

- **Cheap** to access and exploit
- **Adequate** service model

The Disruptive View of the Internet



The Disruptive View of the Internet

- **Adaptable services** quickly migrate to use a cheaper cost base
  - Personal and Group Messages
  - Data transfer
  - Information Services

- **Other services** migrate based on exposure of opportunity
  - Commerce transactions (X.25)
  - VOIP (PSTN)
  - Music distribution (media distribution)
  - Video distribution (media distribution)

- Continually decreasing unit costs and increasing penetration of access devices work together to continually expose new applications and new markets for the Internet

Internet Drivers

- Expansion is continuing at an exponential growth rate.
- Growth of access channels:
  - Desktop services
  - Personal services – Laptops and PDAs
  - Mobile communications services
  - Appliances

- Use Drivers
  - Information
  - Commerce
  - Entertainment

Futures for the Internet

- Same basic model:
  - dumb network, smart devices
  - Packet-based model of network sharing
  - Packet reordering, loss and jitter to remain

- Same drivers:
  - Continued growth in users
  - Continued broadening of the utility model through growth in overlay applications
  - Continued unit price drop in service costs for Internet-based services

Futures for the Internet - Transmission

- Megabit Wireless Bandwidth
  - 802.11 wireless networks are gaining market share as a flexible solution for office and access
- Megabit Mobility
  - 3G wireless efforts gathering momentum as a wide area mobility solution for PDA devices
- Gigabit Fixed Bandwidth
  - Moving to a trunk and access architecture of packets placed directly into the optical plane

Futures for the Internet – Coping with Scale

- Billions of addressable devices
- Either: back to the multi-protocol world:
  - 'Walled garden' domains of rich functionality
  - Inter-domain basic functions undertaken with application-level boundary gateways
- Or: we get serious about coherency of communications
  - Adoption of IPv6-based architectures
  - Reduction of use of network boundary-ware in favour of end-to-end architectures

Futures: The Content Model

- Finding information is not the problem
    - Finding too much information of dubious relevance and dubious authority is the continuing problem
- An environment of Content Abundance

Futures: The Content Model

- Internet Content Abundance
  - Information publication will continue to be driven into cheaper and easier to use models
  - Single point content publication architectures will fade to be replaced by reference-driven distributed cache models
  - A content URL becomes in effect an index used to query a cache, not a lookup performed at a nominated unique location
    - This has implications for the DNS as know it today

Futures: The Content Model

- The issues:
  - Generating **information navigation models** that have tight focus properties in terms of relevance of outcomes
  - Generating **mutual trust models** that can be used to create information filters that generate trustworthy outcomes
  - Adopting a **content economy** that funds quality of content
- Lets look quickly at these three issues:...

Futures: Information Navigation

- Currently in the early stages in combining formal systems with natural language interpreters and generators and flexible format interfaces
- Will the storage structure of information need to change to aid effective content navigation?
    - Is XML a productive direction to make implicit structure of information explicit to the navigation system?
    - Are there other approaches with greater promise?

Futures: Trust Models

- What is the trust model of the Internet?
- What do end-consumers want the trust model of the Internet to be?
- What do media providers and media intermediaries want the trust model of the Internet to be?
- Are these three views consistent?

Trust is difficult to impose and difficult to sustain. If you want a peer-to-peer content publication model then it has to be accompanied with a peer-to-peer trust model to sustain trust in content

Futures: Content Economy

- What does a robust content economy look like?
  - Pay-per view?
  - Free – content provider funded?
  - Free - third party funded?
  - Bundled – access provider bundles content provision?
  - How do cache intermediaries fit into the model?

Thank You

- Questions?

Proceedings

Overview of Knowledge Management/Portal Delivery

Cedric Israelsohn

Knowledge Management

Discussion of the effect of e-business on an organisation 's culture and that culture 's affect on success in e-business, is not complete without specifically examining the role knowledge management orientation plays. Knowledge management as a discipline is very much predicated upon a culture that supports an e-business strategy. It is not coincidental that recent attention paid to knowledge management,(a discipline to leverage the collective wisdom and experience of an organisation in order to expedite responsiveness and innovation),was a precursor to the emergence of e-business. While each developed on a separate evolutionary track, the convergence of knowledge management and e-business is imminent. Indeed, Delphi projects that organisations that are successful in leveraging a knowledge management strategy will correlate to e-business successes for large organisations.

Delivering the Portal The promise of the corporate portal lies in its ability to transcend today's fragmented application environment. Within the context of a corporate portal all of these disparate interactions, and more to come as computing and telecommunications convergence changes the character of how we use internet technology, can be linked together to form a comprehensive, perhaps even cohesive, view of the enterprise.

Because the charter of the corporate portal is to provide, for the first time, a single point of access to all information sources, it must take on the unprecedented role of universal integration mechanism. Gathering and organizing both existing corporate information and information from external sources, the portal seeks to provide a new primary tool to support best business practices for today's knowledge workers.

Despite the efficiencies and strengths of the internet protocols on which the portal is based, this task represents a level of challenge that has never been met by previous information systems. Because of the complexity of this challenge, portal implementations require a substantial set of architectural elements and components.

We have identified nine major elements in the architecture of the corporate portal, software facilities that must work together to deliver the performance characteristics required for function-centered knowledge desktops. These portal software functions include facilities for:

- Integration
- Categorization
- Search
- Publishing and distribution
- Process support
- Collaboration
- Personalization
- Presentation

The role of the Information Service Professional can be readily applied to the following 2 components of the architecture:

Categorisation

The Categorization facility implements the organisation-specific taxonomy that helps contextualize portal information to support rapid recognition and productive use.

The importance of the categorization facility for the corporate portal is illustrated in the familiar early description of the Internet: it's like the world's greatest library, only the books are scattered all over the floor; rendering their information virtually undiscoverable. The corporate portal has to contend with the same issues: overwhelming quantities of information, from many different sources, with identification inherited from technical structures that are not conducive to human understanding or memory, largely undifferentiated as to importance, context, or meaning.

The huge benefit that categorization brings to the portal is information con- text. Humans don't operate on isolated items of information, but in domains of understanding that are created by interrelated layers of meaning. Yahoo! designed categories with broad appeal to the broad Internet audience. Inside the organisation, the corporate portal has a related, but more subtle design challenge; to create a context that reflects and supports the organisation's business.

Within each organisation, elements such as current business practices; management initiatives; corporate history, structure and culture; available professional resources; and learning requirements build up a context for working with information. To capture and support this context consciously is one of the early perceptions of the movement toward knowledge management practice in many companies. For the corporate portal to succeed, the information available on it must reflect those established patterns and familiar context. A first step in corporate portal information design is to infer, at least at the higher levels of abstraction, what the knowledge map for the organisation must look like, and reflect it in the category structure of the portal.

Complicating the challenge is that any category structure creates an information hierarchy; an outline, or classification scheme, like the library's Dewey Decimal System. The information hierarchy, in establishing its consistent guidelines for classification, sets up the inevitable risk of conflicting with individuals' instinctive or habitual ways of thinking about the information.

Publication & Distribution

In the new era of ubiquitous Internet-protocol computing, the pervasive 'Error 404, File Not Found The URL you requested could not be found on this server,' is a problem rapidly growing up to replace the famous MS DOS-era error, 'Abort, Retry, Ignore?' in the hearts of computer users. Perhaps the largest challenge for the corporate portal publishing and distribution facility is the vigilance with which portal content configurations must be managed. Managed document repositories again are a prerequisite to effective content management on the maintenance side. An established life cycle management approach to portal content, including initiation, a time specification for 'currency,' and archive procedures is critical to delivering the kind of 'certified' content portal users expect to receive.

The development of the information industry can be read as a continuing story of new opportunities for successful species adaptation created by attractive but unfilled ecological niches arising from the advance of technology. The corporate portal phenomenon is a typical example of creative innovation in the process of this evolution.

The niche for portals has been prepared by the increasing flood of network- accessible electronic documents, which has been steadily growing over the past 30 years both from the spread of computer-based business processes in the organisation and from the exponential expansion of Internet communications. Over the past few years, the flood has grown so large that it is in the process today of bringing about a fundamental shift in the value proposition for information. We have reached a moment in time when the economics of information availability are shifting 18???at the same time the cultural climate supporting communication inside organisations is crumbling.

Discontinuity's impact is played out not only in a continuously changing set of business conditions outside the office, but more importantly for the conditions of day-to-day work, it is continuously destabilizing the ways work is done inside the workplace. On both an interpersonal and an information systems level, accelerating change is making it difficult for effective work processes to be created or maintained.

The shift to cross-functional teams and a project approach to many business initiatives has created a work milieu in which peer relationships are fleeting, and job descriptions temporary at best. As product life cycles shorten, organisations find themselves in a virtually continual pattern of re-organisation: abandoning failing product lines, re-grouping to address new business opportunities.

Both categorisation and a structured publication and distribution strategy built on a solid records management foundation will go a long way to diminish the impact of discontinuity.

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Proceedings

The Business of Knowledge Management in the Knowledge-aware Organisation

Christine Johnston

Formal surveys and anecdotal evidence both indicate that knowledge management has gained general acceptance as a business concept. However, despite this acceptance, many businesses have yet to fully implement an effective knowledge management program. This paper examines the challenges facing organisations that are preventing successful implementation. In particular it focuses on the need for the knowledge-aware organisation to recognise the business of knowledge management, that is the effect of knowledge management on the profitability and competitiveness of an organisation.

An accepted success factor

Knowledge management is now on the strategic agenda for many businesses. The importance of knowledge as a key business asset and the corresponding need for an effective knowledge management program have reached acceptance as key elements in the success of a business. Organisations have realised that the ability to capture, manage and exploit their knowledge is critical to maintaining their competitive advantage.

The recent KPMG Knowledge Management Research Report, a survey of 423 organisations in the UK, mainland Europe and the US, found that 81% of respondents had or were considering a knowledge management program.[1] Seventy-nine percent of organisations surveyed believed that knowledge management can play an "extremely significant" or "significant" role in improving competitive advantage.[2]

PricewaterhouseCoopers' annual survey of CEOs at the World Economic Forum's Annual Meeting 2000 found 97% of senior executives believe knowledge management is a critical issue for them.[3]

The ongoing challenge

However, while there is general acceptance of the concept of knowledge management, the knowledge-aware organisation is not necessarily experiencing clear commercial benefit or tangible results as a result of this acceptance. Those with a knowledge management program are faring better than those without[4], but there are still many challenges facing the knowledge-aware organisation.

Acceptance of the concept is but the first step. Where many organisations struggle appears to be in successful conversion from acceptance of a concept to effective implementation of a knowledge management program with clear commercial benefits. An Ernst & Young survey of 431 organisations in Europe and the United States found that 71% of executives rated their business as average or worse at embedding knowledge in processes, products and/or services.[5] Cambridge Information Network found that although 85% CIOs belonging to its network of 3,500 senior IT executives thought managing knowledge would give them a competitive advantage, only 8% of companies had a knowledge initiative that spanned the enterprise.[6]

Wide faith in the concept of knowledge management has not led to consistency in the definition of the term or consistency in the approaches taken to implement it within organisations. Despite this inconsistency of approach there is commonality in the challenges and barriers faced by organisations seeking to convert knowledge management from a concept to reality. The challenges are often interrelated and will vary from in degree amongst organisations depending upon the approach taken.

Information overload

Many organisations have accepted the benefits of capturing and sharing their information and knowledge. They have implemented new procedures and new systems, often involving database technology, to assist in this process. However, in many organisations the knowledge warehouse is now full.[7]

New knowledge gathering systems are often not accompanied by clear policies as to what to capture and when or how to update it. There is no evaluation of the benefits and purpose of the information and knowledge gathered. Consequently, rather than streamlining and speeding up the search for relevant knowledge, the user is faced with a frustrating and bewildering range of choices - KPMG found that nearly two-thirds (65%) of organisations with a KM program complained of information overload.[8]

Lack of policies for the use of information and knowledge can also inhibit knowledge sharing. Each group within an organisation builds an ever increasing silo of information within their area, but there are no clear guidelines as to when and how that information should be shared with other groups.

Incentives for Knowledge Sharing

Workers within an organisation must be given an incentive for knowledge sharing. A common complaint from busy employees is that they have no time for knowledge sharing. They see knowledge sharing as an additional task in an already hectic schedule rather than an inherent part of their business practices. Job descriptions may have to be redesigned to reflect that effective knowledge collection and use are an intrinsic part of the job.[9]

Formal recognition of knowledge management activities may take a positive or negative form and must be tailored to the needs of a particular organisation. As with the effective packaging of knowledge discussed above, an effective reward system must be appropriately structured. A reward system that recognises information contributions as an important factor in determining employee bonuses without evaluating those contributions is likely to result in a database full of low quality but lengthy reports of limited benefit.

Growing knowledge communities within an organisation may not always take the form of direct individual reward. Incentives for knowledge sharing may involve creation of a positive environment for the exchange of ideas, for example allocation of space for a lounge area where people can meet for informal discussion.

Some organisations have sought quite innovative ways of rewarding knowledge sharing. Harvard Pilgrim Health Care pays departing employees "knowledge bounties" of between $1,000 and $5,000 based on the value of the knowledge they leave behind.[10] Recognising that they can not always afford to retain employees, the company seeks to hold onto the knowledge they have gained while on the job.

Measuring Intellectual Capital

Harvard Pilgrim Health Care is one organisation putting a clear value on knowledge. While knowledge itself cannot be measured, it can be captured and converted into a measurable business asset. Many organisations seeking to implement a knowledge management program do not have clear measures for the success of their strategies - KPMG found only 16% of organisations had or were considering a KM program that measured intellectual capital.[11]

Sweden-based Celemi is one of the few companies in the world that measures its intangible assets and publishes the measures in its annual report.[12] As a knowledge-based business they decided to measure their intangible assets to ensure their financial statements represented the true value of their firm. They identified three areas which gave the company a competitive edge - their customers, their organisation and their people - and recognised the value provided by these assets is measurable once it is captured and converted into something the company can own - for example a new skill that can be reused in other areas. The benefits to the business as a result of the exercise have included a greatly enhanced ability within the firm to measure movement against strategic goals, discover trends in business development, and to make effective business decisions.

Successful measurement of knowledge management initiatives helps quantify tangible results and commercial benefit. This measurement is often needed to promote the importance of knowledge management programs and justify future projects.

Effective Use of Knowledge Champions

Implementing an effective knowledge management program throughout an organisation requires effective use of knowledge champions. Strong leadership from the top is an established element of a knowledge sharing culture. However, as shown above, it is now evident that while upper management is providing verbal support for the concept this is often not backed by practical support within the organisation. The implementation of knowledge management programs is often driven by mid-level managers, not from the top. They face the challenge of selling knowledge management as a valuable business tool upward and downward in their organisation. This can be a highly political process. The commercial rather then the altruistic benefits of effective knowledge management become important in a potential conflict of management philosophy and business practice. Pressure is placed on the knowledge champions to prove the competitive advantages of knowledge management and produce quick results for business investment.[13]

Many organisations are also realising that a 'whole of organisation' approach may not be appropriate when seeking to implement a knowledge management program. To ease the concept into the organisation it may be more effective to work with those divisions/areas which are keen to embrace the concept. These groups can then help act as champions and examples for the more recalcitrant areas of the organisation.

Exploitation of Technology

Technology is the one of the key tools in effective knowledge management but it is not the answer in itself. The effective use of technology is not a new challenge but is one still facing most organisations. Two main problems continue to emerge.

The first issue involves the need to fully exploit the technical capabilities of available technology solutions. Organisations have invested in technology systems to assist in the capturing and processing of knowledge but have not exploited the full power of those systems. This inability to realise the full benefits of technology is fundamentally due to a lack of strategy and failure to implement the solution as part of the organisations daily operations and culture, for example lack of training, lack of communication about new features, and poor integration into working practices.[14]

The second issue is the struggle to find a balance between a technology and a people based approach to knowledge management. Efficient use of technology is essential to help manage information and knowledge. Without well-implemented technology knowledge management becomes something akin to a Where's Wally cartoon - you know the knowledge is out there, the difficulty lies in where to find it and how to get it. However, managing the source of the intellectual capital of a business is just as important as managing the systems that process it.[15]

Failure to Commercialise Knowledge

Many organisations when implementing a knowledge management program have focussed on improving their internal processes and procedures. To a certain extent, for all businesses this will improve competitiveness by reducing expenditure, increasing turn around times, and improving productivity. However, many organisations have missed opportunities to commercialise the knowledge they are now seeking to manage.

Commercialising knowledge involves looking at the what an organisation has in-house and considering whether changed use of technology, better information structures, new corporate culture or changed customer needs will enable that information and knowledge to be marketable. It requires examination of internal expertise and shared knowledge to discover whether it can be repackaged and sold to existing and potential customers in the form of a product.

For example, in February 1999 Deloitte Consulting realised that it had completed over 200 customer relationship management (CRM) projects. To exploit the benefits of the knowledge gained during these projects, the firm used the knowledge to develop a diagnostic tool set that captured the best practices in learning around CRM and the challenges and issues it involved. The diagnostic tool was marketed as a new product.[16]

Using and managing knowledge in a manner that can achieve multiple reuse of a particular piece of information or knowledge can result in significant economic benefit for an organisation. Multiple use of the same information enables it to be delivered at relatively low cost and consequently increases profit margins. This has been happening to a certain extent in law firms for years with the use of extensive precedent banks and databases of client advice. Instead of each lawyer creating a completely original draft of a document, he or she is able to access the knowledge of previous lawyers who have attempted a similar task.

The AussieLegal website[17] has commercialised this approach to information reuse and is providing online legal services to personal and small business consumers. The site provides simple instruction kits for people seeking straightforward legal assistance or document creation. For more complex matters visitors to the site are referred to an affiliated firm. AussieLegal earns its revenue through the sale of legal kits and through site establishment fees paid by firms that want to be affiliated with the organisation. The site is revolutionising the legal industry by changing the 'one on one' approach to accessing legal expertise.

The growth of e-commerce, particularly in the B2B area, has opened opportunities for the commercial application of knowledge management. Successful e-commerce sites are a mixture of commerce, content and community.[18] Companies are beginning to realise that knowledge management technology and approaches can provide the content for e-commerce initiatives. Information communities created as a result of knowledge management programs also offer opportunities for commercial exploitation.

As organisations gain a greater understanding of their own sales, inventory, and internal procedures and expertise they can extend that valuable knowledge to their partners and customers. Organisations are using knowledge they have acquired about their customers and business partners to personalise and customise the value added knowledge e-business they are now offering. Areas that have traditionally been cost items within the organisation can be transformed into profit centres. For example, Owens & Minor, a medical distribution company, has developed an Internet based service that enables customers and suppliers to access reports about their inventory levels, prices, supplier efficiency and types of customers buying specific products. The service, which involves a one-time set-up fee and a monthly fee for service, brought in US$125,000 in revenue last year and is projected to generate $2 million by the end of this year.[19]

The Knowledge Centre and Orli-TECH are further examples of an organisation seeking to commercialise its internal knowledge. Orli-TECH was originally the Gadens Lawyers, Brisbane internal IT department. The Knowledge Centre was conceived within Gadens Lawyers as part of its external knowledge management program and seen as an opportunity to commercialise its existing library and information services. Both enterprises sought to capitalise on the in-house specialist experience, technical knowledge and industry understanding by making this knowledge available to multiple organisations on a commercial basis. The services we offer have evolved with market demand and advances in technology, and a recent restructure resulted in the merging of the two enterprises such that The Knowledge Centre is now formally a division of Orli-TECH. Now an independent company, Orli-TECH writes innovative Internet based software for the professional services sector to deliver knowledge management and e-commerce solutions.

Private v Public Sector

It would appear from most examples and case studies for knowledge management projects that the existence of the knowledge aware organisation is limited to the corporate rather than the government sector. Whether this is due to effective corporate marketing or a reflection of the true state of affairs is subject to debate. There is no doubt that governments are facing the same pressures as the corporate sector to make faster decisions, provide superior service, gain business insights, and improve business performance. These pressures are speeding the arrival of e-government - the delivery of information and services online through the Internet or other digital means.

Governments are rethinking how they do business to meet growing taxpayer expectations and diminishing operating budgets. The public sector can now provide real time data to their constituents in the same way commercial enterprises deliver electronic products. Examples of services available online include applying for a licence, searching statistical databases, filing a complaint and requesting a publication. The growth of e-government, and in particular the use of portals, has also assisted the public sector to improve its internal processes and knowledge sharing.[20] Studies in America show the public see the potential of e-government begins with more cost effective and convenient services and extends to a better informed citizenry and a more accountable government.[21]

Yet in the gap between acceptance and implementation of knowledge management which appears in the private sector is also evident in the public sector. A recent US study involving a survey of state and federal chief information officers and a detailed analysis of 1,813 state and federal government websites found that the e-government revolution has fallen short of its potential. Although 86% of chief information officers surveyed felt that e-government had improved service delivery, 83% believed it had made government charges more efficient and 63% claimed it reduced government costs, only 22% of web sites examined actually offered online services.[22]

The Role of Librarians

So where does this leave librarians? If we are willing to accept the opportunities offered by the struggle organisations face to implement effective knowledge management programs, we are in a position of strength. The traditional skills of the library profession in information organisation and library management place us in an ideal position to play a key role in an organisation's knowledge initiatives.

However, with the potential rewards of the knowledge aware organisation comes a new range of challenges. Changes in work practices and organisational models mean that 'soft skills' are becoming essential competencies for career development in the knowledge era. Intellectual ability and technical or specialist knowledge and skills are taken by many employers as a given.[23] To succeed in the knowledge economy, librarians must develop not only their technical skills, such as cataloguing, resource location, and perhaps most importantly familiarity with technological systems, but also their 'soft' skills such as communication, flexibility, creativity, and adaptability.[24] We need to develop our expertise in budgeting, strategic management, marketing, presentation and change management. The high priority attached to soft skills results from the need to manage organisations, people and projects effectively to participate in the business of knowledge management.

Conclusion

The knowledge-aware organisation still faces many challenges in the successful implementation of an effective knowledge management program. The short and long term viability of many programs, and consequently the organisations who implement them, is dependent upon the programs having clear commercial benefits and a defined strategy for creating competitive advantage.

This need creates exciting opportunities for librarians. But just as there are no easy rewards for organisations exploiting knowledge management to seek improved business opportunities, there is no automatic progression for librarians. We too face an exciting new range of challenges to enable us to fulfil new roles in the knowledge-aware organisation.

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Proceedings

Information Needs in the Consumer Society - a Technological Basis

Jay Jordan

Thank you. Senator Lundy, ladies and gentlemen. It is an honor for me to participate in this conference of the Australian Library and Information Association.

Before I left for Canberra about 24 hours ago, some people back at the office told me that Australia was a far place to go to just deliver a speech. I told them that I wasn't coming to this conference just to deliver a speech. I was coming here to meet with Australian librarians and, most important, to listen to them and learn from what they have to say.

In my remarks today, I am officially charged with the task of quote, "examining the major factors in the design, implementation and operation of library and information systems, with an emphasis on the need for a sound understanding of user needs," unquote. Unofficially, my remarks will focus on how co-operation can help libraries meet their users' needs. Let me start by telling you a little about our organisation.

What is OCLC? OCLC is a nonprofit, membership organisation whose public purposes are to further access to the world's information and reduce library costs. We provide computer-based services that help libraries manage their collections and meet the information needs of their users. We are governed by a 15-member Board of Trustees, eight of whom are librarians of which six are elected by a 60-member Users Council, which is in turn elected by member libraries around the world. On one level, the history of OCLC is about computer and telecommunications technology. The organisation has been adapting to constant technological change since it introduced online shared cataloging in 1971. Indeed, one of the last original terminals in the OCLC network is now on display at the Smithsonian Institution! On another, and I believe, more important level, the history of OCLC is about co-operation, about helping to bring institutions together to accomplish more than any of them could working alone. In the beginning, 54 libraries started co-operating through OCLC. Today, more than 37,000 institutions in 76 countries are co-operating. Let me briefly trace some of the aspects of this co-operation.

If you go back and read the history of OCLC's early days, you see an incredible amount of energy being spent on politics--that is, getting people and their organisations to agree on what should be done and who was going to do it. You see enduring relationships being forged. For example, the OCLC bibliographic database was seeded with about 500,000 records from the Library of Congress and its infant MARC database of machine-readable cataloging, which started in 1968. One could say that OCL C was the first practical distributor of LC-MARC records, but that would greatly miss the point. What we really did was provide a new means for libraries to co-operate. Our 30-year strategic alliance is both formal and informal and extends beyond the distribution of MARC records to cataloging rules, standards, quality control issues, and other matters of interest to the library community. Our Forest Press Division has offices in the Library of Congress, where editors work continuously on the Dewey Decimal Classification. Over the years, we have also worked closely with research, academic and public libraries. We consult with leaders from each of these types of libraries through advisory committees. We devote a lot of time and energy on customer needs. And this is not a vendor-customer relationship.

We are a dot.org, not a dot.com. The vast majority of the 37,000 libraries in 76 countries that participate in OCLC are dot.edus, dot.orgs and dot.govs. Our objectives are different from the dot.coms, whose main purpose is to generate economic returns for their owners. Collectively, we have to seize the opportunities offered by the Web and grapple with its challenges. We are driven by values beyond the quarterly earnings reports of the dot.coms. Yet, we partner with dot.coms, provide services to them. They are not the enemy; they just have different objectives than we do. Our goals are to advance research and education, to organize and preserve knowledge and pass it on to the next generation. OCLC provides cataloging, resource sharing and reference services to libraries. Last year, libraries cataloged 55 million items online with us and arranged 8.6 million online interlibrary loans. Library users did over 64 million reference searches with us. With our member libraries, we produce and maintain WorldCat, the OCLC Online Union Catalog.

WorldCat is a unique database. It contains more than 45 million bibliographic records, and grows by over 2 million records a year. Libraries have been sharing their cataloging information through OCLC since 1971.

OCLC strives to be a trusted partner for libraries. We were created by librarians. We are governed by librarians. We eat, breathe, sleep and dream libraries. We also recognize, however, that we also have to understand libraries and their needs. Two of the main ways we do that are through the Office of Research and the OCLC Institute.

The OCLC Office of Research has added significant value for OCLC members since its founding in 1978. OCLC FirstSearch, OCLC SiteSearch, Persistent Uniform Resource Locators (PURLs) and the Cooperative Online Resource Catalog (CORC) are just a few of the innovations initiated in OCLC Research to benefit member libraries around the world. OCLC researchers have been studying the characteristics of the World Wide Web and have been focusing on developing that will enable libraries to continue to provide the high quality services that patrons expect in a Web environment. The OCLC Office of Research continued to serve as an advocate for the library community in the development of standards such as the Dublin Core (a set of elements for building universally usable resource descriptions) and the RDF (Resource Description Framework), which is an emerging World Wide Web consortium standard for interoperability on the Web. It is no exaggeration to say that their work is helping to shape the future of librarianship and library service.

The OCLC Institute, identifies leading issues and trends in libraries, discovers related educational needs for mid- and senior-level library managers, and creates educational offerings to address those needs. On the screen you can see some of the current course offerings. Earlier this month, Erik Jul, the Executive Director of the Institute conducted seminars in Beijing, Hong Kong and Thailand. With the International Federation of Library Associations and Institutions, OCLC established a fellowship program to support library and information science professionals who are in the early stages of their career development and are from countries with developing economies. The first class of these fellows will attend a series of courses at the OCLC Institute and visit libraries around the US in 2001.

There are 133 libraries in Australia that are OCLC users. The OCLC users include all the universities in Australia, the National Library of Australia, state libraries, public libraries, research institutions, special libraries, and libraries of Australian government agencies. An agreement exists between OCLC and the National Library of Australia whereby, OCLC sends to the National Library of Australia a copy of the MARC records used by institutions in Australia for online cataloging when a record is exported, and holding symbol is set in the WorldCat. The National Library of Australia loads the MARC records received from OCLC into their National Union Catalog. A total of 101 libraries in Australia are users of the OCLC FirstSearch service. The service was introduced to Australia in December 1993 through the arrangement of Council of Australian University Librarians (CAUL). For the past decade, OCLC has been fortunate to have DA Information Services representing OCLC in your great country. I would like to acknowledge and thank John Dwight and DA Information Services. Well, I hope by now that you have a general idea of what my organisation is all about. Let me sum up with a statement of where we are going.

Here is our vision statement: "OCLC will be the leading global library co-operative, helping libraries serve people by providing economical access to knowledge through innovation and collaboration."

As you can see on the screen, we have a clear vision of what we want to be. We will become a true global co-operative. In this new collaborative model, Dublin, Ohio is no longer the center of the universe. We will be evolving to a more distributed, modular architecture with regional centers around the world, with services tailored to local needs. We will seek out new strategic alliances that go beyond simple distribution relationships. We will advocate open systems and open access policies to facilitate integration and sharing of resources throughout the world in an efficient, flexible, and locally adaptable manner. We want to leverage the power of library co-operation on a global scale. We must continue to provide a compelling economic value for our members. We will continue to build on our proven formula of providing innovative services that help libraries collaborate to serve their users better. To do that, we have to understand information needs in the consumer society. In short, we have to understand the customer. And, who is the customer?

Dave Barry is an American humorist. He writes: "I think customer service is a really brilliant system designed to keep customers from ever getting service. My theory is that the most hated group in any company is the customers. They don't know company procedures or anything about what you do, which drives you crazy! - After a while, you think all customers are idiots, and it's hard to be nice to them." While none of us in library land are guilty of poor customer service, we all know organisations that are. I believe that all libraries, from the smallest public to the largest research library, share a commitment to customer service that is along the lines of the following.

"A company's most precious asset is its relationships with its customers," says Ted Levitt, who is Professor of Business Administration Emeritus at the Harvard Business School and a former editor of the Harvard Business Review. He's one of the most widely read and respected authorities in management and marketing today.

I agree with Dr Levitt. In OCLC's case, our relationship with our members is truly our most important asset -- even more important than WorldCat, because without the membership, WorldCat doesn't happen. Likewise, in your libraries, your relationships with customers is ultimately more important than your collections or your systems and services. To be viable, you must have strong relationships with your customers. And, your customers must have a good customer experience with you.

What is the customer experience? The customer experience answers the question, how well do you meet the customers' needs and solve their problems. What is the relationship between you and your customers?

The World Wide Web offers the tantalizing prospect of enabling organisations to provide superior customer service.

Here are some examples of the high new level of service on the Web as reported recently in *The Wall Street Journal*.

A customer sent this message to the Kellogg Web site. Question: Has the company discontinued its low-fat plain granola? Why do local stores only carry the raisin version?

20 days later, the customer got this answer: "Distribution may be limited in your area - may we suggest you discuss this matter with your store manager."

The Reebok shoe site got an interesting query.

Question: "Is it dangerous to wear running shoes to play basketball?"

4 weeks later: "Sorry for the delay - running shoes are oftentimes lighter with not as much lateral support. Hope this helps!"

Yes, that was very helpful. My final example is from Sony.

A Sony customer asked: "For a malfunctioning TV set, is there anything Sony recommends trying before calling a repair technician?"

6 days later, the customer received this reply: Try leaving the TV unplugged for a while.

I am not trying to pick on these companies. These examples force us to think, however. Especially if we are trying to meet information needs in a consumer society. In the remainder of my talk, I will focus on how we went about designing and implementing a new system at OCLC.

CORC is the Cooperative Online Resource Catalog.

On July 1 of this year, we launched CORC, which enables libraries to select, organize and describe valuable, authoritative Web resources. We took CORC from a research project in the OCLC Office of Research to a production system in 18 months using a rapid application development approach for quick turnaround without compromising quality. Libraries are now using CORC to catalog both print and electronic resources. CORC's technology will also serve as the platform for future OCLC services.

To help us better understand user needs in the development process, we asked for volunteer libraries from around the world. We had a total of 489 volunteers, including four libraries from Australia---- the Victorian Education Channel, Monash University, and the Universities of Adelaide, Melbourne and New South Wales. These institutions provided us with useful suggestions and feedback during the development of CORC. At the core of our development efforts is our commitment to quality. Let me say a few words about our Quality Policy.

OCLC is committed to the continuous improvement of its products and services. OCLC conforms to the requirements of ISO 9001, the international standard for quality systems. In this program, "quality" is judged by the user. With CORC, we wanted to move as fast as possible without sacrificing quality. We used the dynamic systems development method. However, this does not mean "quick and dirty." It means "quick and clean." One of the fundamental assumptions of this method is that nothing is built perfectly the first time, but that a substantial, usable and useful subset of the proposed system can be produced in far less time than it would take to produce the total system. And that is what we did with CORC.

We started development in August 1998 and brought real users onto the system in January 1999. The Office of Research ran the system. At the same time, we began assembling a team drawn from managers and staff from across the organisation. These were marketing people, technical people and customer service people. We assembled the team on the second floor of one building and let them focus on the CORC project. Their task was to build and modify the system so that it satisfied the needs of libraries. It is impossible to do this without having libraries actively participate and use the system in real tasks and situations.

Less than three months after libraries started volunteering, they held their first meeting. It was two days at OCLC. They gave formal presentations, shared experiences, and gave us plenty of feedback and suggestions. As a membership organisation, we have always had a special relationship with our libraries, and they really got involved in helping us turn the prototype into a better system. There were regular meetings at OCLC and at various library conferences around the world. There was also a lot of e-mail. In some cases, we were able to take a suggestion and implement it within 24 hours.

The motto of the OCLC Usability Lab is "The User Is Always Right!"

In the Usability Lab, OCLC researchers recruit library users to take systems for test-drives. These sessions are videotaped and help guide OCLC developers in their efforts to make OCLC services as user-friendly as possible. We prototype library system interfaces, develop rapid usability evaluation techniques, and consult with product teams on how to increase the ease-of-use of their products. Librarians can now participate in usability tests in the U-lab without having to leave their libraries.

Well, after 18 months of working with libraries on CORC, we released the system into a production environment on July 1 of this year. Let's see how it's being used.

Library staff at the Smithsonian Institution are using CORC to help build a database that will include information from collections from across the whole museum system, that includes not only books in the research collections, but art objects, natural history objects, maps and so forth. They are also organizing Web sites created by Smithsonian researchers. Their goal is to make these sites accessible to the worldwide research community through library catalogs and reference databases.

In a way, we are coming full circle with CORC, back to the early days of OCLC. Now, we are extending library co-operation to the new challenges of the World Wide Web. Throughout this process, we have kept the needs of users uppermost in our minds. In many ways, CORC reminds me of what Internet Guru Tom Worthington had to say about the stage of the Internet and the buzz about e-commerce that we have all just come through.

In a recent paper, Tom Worthington makes the point that just as Canberra had been designed to be both efficient as a city and ascetically pleasing, why can't we do this with the Internet? He notes that social issues have been lost in the mad rush to the Internet. Quote: " In the last two years we have seen a virtual gold rush, with short term greed staking out as much of the Internet's common land for short term speculative development. Much of this investment has been wasted, due to a lack of thought as to what people might actually be able to use". Unquote. He says that now is the time for IT professionals, including researchers, to step in and play their part in building a long term, sustainable public infrastructure, which will be socially useful, affordable and perhaps even profitable.

I agree with Mr. Worthington. However, I think that librarians have a key role to play in building a useful infrastructure for the Web, and that IT people librarians need to work together more closely. That, however, is a topic for another speech. In the meantime, as you have seen here today, we are doing something about the Web with CORC. We are weaving libraries into the Web, and we are weaving the Web into libraries. This is truly an exciting time for libraries and librarians. Thank you.

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Proceedings

Upgrading Each Library to be World Class: upgrading Internet libraries

Brewster Kahle

Every researcher will need to leverage the digital collections to do engineering, science, history, linguistics. . .

The public deserves access to the world's cultural and intellectual holdings . . .

Upgrading Libraries to be World Class

- Digital Archives can hold the world's cultural heritage
- Interlibrary Loan can provide the Intellectual property and legal framework and distribution
- Existing libraries can be the retail outlets leveraging physical facilities, librarians, and specific collections
- We can do this now

Digital Archive and Data Mining Machines

More text than the Library of Congress, and only $300K US

Revolution in Collecting and Preservation

- Capacity of digital repositories is immense
- Preservation through Redundant collections in multiple countries

  - Large scale data swaps with other countries
  - Bandwidth, rights, and interested participants
- Automatic and distributed cataloging techniques make collections of billions of objects tractable
- Access for millions a day is very affordable, even video

Internet Archive Status: Factoids

- (Text of the Library of Congress ~20TB)
- Web Archived: 35TB so far of WWW, 50TB by year end
- TV archived: 20 channels, 70TB of Broadcast
- 1000 archival films: 0.5 TB
- "media" costs:
  - $1,500/TB Tape, $12,000/TB Tape in robot
  - $3,800/TB Disk, $8,000/TB Disk in computer
- 10TB/month estimate of WWW
- 100TB/month for world's streaming media (not on net yet)

Access through Inter-Library Loan

- Existing legal framework that balances Intellectual Property owners interests with those of the public
- Sample digital collections to start with:
  - All webpages from the past, e.g. government, election sites, all Australian sites
  - All Television news in "on-demand" format
  - All published and archived music
  - Video of Government proceedings
- Need volunteers to start trials

Existing Libraries become Internet Libraries

- Upgrade every Library collection to include all digital holdings
- Leverage Librarians to make it accessible
  - PC's, Connectivity, and Training
- Every Library becomes a World Class Library
  - Every school, every town, every college
- Is your Library interested in jumping in?

Internet Branch Libraries: Libraries in Malls

- The Internet Library function can be provided in small facilities to maximize public access
- A storefront in the Mall:
  - Chairs
  - Librarian
  - A few bookshelves
  - Computers
- Very inexpensive to operate, fantastic step for public access

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Australia's Opportunity:Upgrade each library to be World Class

- Leverage the Internet Archive and others for content
- Ensure Inter-library loan laws do not get eroded
- Offer these holdings through existing Libraries
- Redundant collections in multiple countries
  - Large scale data swaps with other countries
  - Bandwidth, rights, and interested participants
- Our Biggest Hurdle: Realizing the world has changed

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Proceedings

Lifelong Learning - A Public Library Perspective

Maureen Kahlert

> *Education is at the heart of both `personal and community `development; its mission to enable us, without exception, to develop all our talents to the full'*
>
> *1996 report of the UNESCO Task Force on Education for the Twenty-First Century*

Introduction

The topic of Lifelong Learning has been addressed by many disciplines and in many different environments.

Indeed as Alan Bundy has stated 'Since the 1996 UNESCO Delors report *Learning: the treasure within,* lifelong learning has developed into what will be the educational policy icon of the early 21st century.' (Bundy, 1999, p95)

It has become associated with government policies 'encompassing quality of life, new opportunities, reskilling and equality of access'(Bundy, 1999, p95).

Indeed in 1996 the European Parliament declared the Year of Lifelong Learning. Since then policy initiatives on lifelong learning have been developed in thirteen industrialized nations. In Australia, university centres and chairs in lifelong learning have been established.

At the global level, learning is high on the agenda due to rising interest in social capital, the need for a competitive edge in the global and knowledge economy and changes in information and communication technology.

In America the concept of lifelong learning was conceived and developed in the 1970's in recognition of the need to approach learning, education, individual growth, and personal development as part of a holistic philosophy. The value of the concept was in its recognition of the cumulative effect of learning throughout the life span.

Fundamental and imperative to the entire lifelong learning process is information literacy that is the ability to access, retrieve, interpret and apply information in particular in electronic form.

Learning and lifelong learning contrast to lifelong education in so much as that they are much broader orientated concepts as they encompass stock that comes from living and life itself. Hence formal education, non formal education, social and recreational activities and just day to day living play a *process* role leading to the product of lifelong learning. Education facilitates lifelong learning however, lifelong education is the *business* and lifelong learning is the expected product we can expect within the *business*

Objectives

This paper has three main objectives:

- Discuss the Lifelong Learning challenge
- Address the issue of the public library as a lifelong learning institution
- Present a Lifelong Learning Project which was organised by the City of Swan Public Libraries for the International Year of Older Persons

What is Lifelong Learning?

What is lifelong learning? Lifelong learning is the gaining of knowledge through the life span from a variety of sources and learning opportunities.

Most people are continuously learning and gaining knowledge throughout their life span. As one ages it is common for some loss of immediate memory ability however there is little scientific support for the opinion that senility or a serious loss of intellectual capacity is normal due to ageing. When intellect does decline it is generally the result of specific disease or drug effects prescribed for ailments, terminal illnesses or of an isolated unstimulating way of life.

Hence every opportunity should be given to seniors to utilize the knowledge and information they have acquired over the course of a lifetime.

On the other hand, longitudinal studies do suggest a possible decline in learning ability after the age of 70. It is interesting to note that mental abilities which reflect past knowledge (crystallized intelligence) are maintained longer against the hazards of age than fluid intelligence (learning new material). A decline in intelligence can also result from isolation and lack of mental stimulation in one's life.

Knowledge can be gained from a variety of sources as stated by one of the Fryer Report task groups, working under the umbrella of the National Advisory Group for Continuing Education and Lifelong Learning:

' - .access to learning opportunities requires resources for self-directed and autonomous forms of learning as well as access to educational institutional progression routes and formal qualifications ' (Batt, 1998, p3)

Widespread social and economic change has resulted in the need for communities to engage in more learning and at more stages in their life.

A recent report titled 'National Marketing Strategy for Skills and Lifelong Learning' was produced for the Australian National Training Authority by the National Marketing Strategy consulting team on behalf of MINCO. This publication will be the Vocational Education and Training's blueprint for turning the Australian community and enterprises on to lifelong learning.

'A Bridge to the Future: Australia's national strategy for vocational education and training 1998-2003' emphasized the need to establish a training culture, through effective marketing analyses and responses.

This need was raised in a ministerial paper in the form of a question -'how can we move from a country with a soundly structure (vocational education and training) system to a country which instinctively values education and training and turns to it instinctively and intuitively in a process of lifelong learning?' In essence the objective was to stimulate a passion for learning and the acquisition of new skills among Australians.

It was the objective of The National Marketing Strategy for Skills and Lifelong Learning to answer this question using social marketing approaches. Indeed there were two major aims:

- To instill within the Australian community and enterprises a desire to acquire skills that are valued and to engage in lifelong learning (primary aim).
- To create a framework for effective marketing of skills and lifelong learning products and services (secondary aim).

(Australian National Training Authority, 1999, p1)

How was this achieved? A national survey was conducted of people aged 16 and over followed by a national qualitative research program of 31 focus groups. The findings of the quantitative survey allowed the marketing team to divide the general community into main attitudinal 'types' or 'segments' This resulted in an analysis of each segment's knowledge, attitudes, perception, barriers and incentive related to the acquisition of skills and lifelong learning.

The definition for learning used in the research covered informal learning, training and study.

The rationale for this was due to the findings from the community responses during the qualitative research.

For the community informal, unstructured or incidental/experiential learning were the preferred categories for learning indeed reactions to 'study' per se were very negative.

This definition of learning for the community was clearly the most appropriate means of talking about lifelong learning to Australians.

The results and picture that emerged is both enlightening and challenging. Some fundamental findings were:

'Customers have revealed a value for learning that is complex and holisitic:

- We value learning for its whole of life contribution - to work, family, community and personal growth; it contributes to our happiness and well being.
- The external benefits of learning are important but so is its intrinsic value - we believe that learning anything is worthwhile.
- Few of believe that learning is only about qualifications or vocational skills, and some of us challenge the idea that work provides the most important reason to learn.
- Most of us are confident that learning could help us to achieve our life goals or to keep up with the rapidly changing world.
- Our experience of structured learning opportunities is that in many instances they have not met our needs or expectations - they may be too inflexible and stressful, they don't always deliver on fun or personal growth.
- Both formal and informal learning are important but we prefer to learn from other people, from mentors or from practical work or life experience, rather than in classrooms or from books'(Australian National Training Authority, 1999, p3).

Statistically about half the community in Australia is actively learning in both structured and informal settings. The majority are young (under 25 years or between 24 and 44 years) and few sustain the commitment to keep learning throughout the lifespan despite its importance to them (Australian National Training Authority, 1999, p3)

'The perceived or real barriers to learning recognised by the other groups were:

- The competing demands of work and family, including loss of productive time.
- Fear of technology and fear of failure.
- Cost and access.
- Lack of information.
- Perceived irrelevance of learning to life stage'.

(Australian National Training Authority, 1999, p3)

The report also highlighted the value of learning in communities as an important issue. Due to community renewal or rather the preoccupation with the focus on regional, rural and remote Australia the need for local learning products and services does need attention.

The key to learning is interest, being equipped with the necessary literacy skills and the will to exercise the effort required to learn. Indeed we need formal channels for learning through educational institutions or other organisations and we need teachers, educators and people who are enthusiastic about sharing their knowledge.

But there are other means of learning to acquire knowledge. Throughout history self educated men and women from all walks of life and social stations have risen to the occasion of the challenges facing them to name a few - Abraham Lincoln, Ansel Adams, Florence Nightingale, George Bernard Shaw, Charles Dickens and Thomas Edison. The key to learning for these autodidactic people was an insatiable and voracious desire to learn coupled with high motivation and personal drive.

Public Libraries - Lifelong Learning Institutions

Learning is ageless. Learning requires individual and personal motivation. It is necessary to have the will to learn and keep on learning hence attitude and values are critical to its success..

Learning is in fact a lifelong adventure, which can be achieved through formal or informal sources. Learning is not just knowing all the answers or the acquisition of information from a variety of sources or regurgitating the thoughts of others. Nor can examinations and qualifications simply measure it.

The learning process must begin before the child commences school and not cease with retirement or old age.

Studies have shown that 50% of one's potential brain capacity is developed in the first five or six year of life. Therefore there should be a concerted effort to transform those early years into a fun yet powerful and learning growth experience.

Lifelong learning is an all-inclusive philosophy that influences every phase of a public library service.

'Learning is not simply about following accredited courses to obtain qualifications. It is about gaining knowledge to lead better, more fulfilling lives. *Such learning comes frequently in very small quanta. (*Batt, 1998, p4).

The public library is a learning institution, which recognises a wide diversity of clientele. This is evident in its provision of services for all age groups and minority groups.

Through resources, activities and special programs public libraries attempt to develop the minds of young people, to stimulate the adult and continuously engage the older adult.

The public library system is in fact the seat of community lifelong learning - it offers opportunities for individuals and social groups to engage in learning - through leisure and information publications, multi media formats including online sources, formalised programs and /or merely to learn by serendipity through browsing either the library shelves or surfing/navigating the web.

As Chris Batt states 'Public libraries are unique in the way that they can allow those tiny portions of learning to invisibly change people's lives'.

Millions of people pay a king's ransom for college tuition to learn what is free for the taking when motivated by a compelling desire to learn. In the movie Good Will Hunting, Will (played by Matt Damon) chides an arrogant Ivy League student for paying a fortune for an education that would be free but for the price of a library card.

Public libraries have a unique contribution to make to the lifelong learning process - not only on behalf of the informal and independent customer but also acting as an access point to training and learning opportunities provided by others.

This has been demonstrated by the Derbyshire Libraries where the Derbyshire Learning and Technology Access (DELTA) service is available in 20 libraries . Services offered are:

- Internet access
- Information and Learning materials on CD - Rom
- Wordprocessing and spreadsheets

- Video conferencing

According to the article by Martin Doughty the service currently attracts 20,000 users every month. Indeed the success of DELTA assisted the County Council to gain a 400,000 pounds grant to set up a University of Industry pilot, in partnership with Chesterfield College.

This will provide access to online course material through libraries and learning centres around the county and in large mobile libraries.

The success of this project exemplifies how libraries can work together with education as an equal partner 'bringing an independent viewpoint and a range of skills and resources which add value to the County Council's provision of opportunities to learn' (Doughty, 1999, p87)

City of Swan - Lifelong Learning Project

The project developed by the City of Swan Public Libraries was titled - *Lifelong learning - the key to knowledge.*

The City of Swan Libraries consists of 6 public libraries in the City of Swan Western Australia. The libraries serve a population of over 87,000 in an area of accelerating growth namely 5% per annum.

The project was funded by an International Year of Older Person's Grant ($6,000) with additional support in the form of resources, venue and facility/equipment from the City of Swan.

The project consisted of a series of bi-monthly talks on a diverse range of topics and subjects.

The concept of this program was awakened and inspired by personal research for my PhD on the ageing and non ageing Baby Boomers that is the Leading Edge and Trailing Edge Boomers - the group born between 1946-1961.

Overall the Boomers based on the 1996 Census respectively constitute 24% of both the Australian and Western Australian populations.

Of the Leading Edge Boomers in Australia (those born between 1946-1955) 13.2 % of have attained a Higher Degree or Undergraduate or Associate Diploma. Of the Trailing Edge Boomers in Australia (those born between 1956 - 1961) 9.5% have achieved the same levels of education of the Leading Edge group.

These statistics indicate that the Boomers are well educated and will both now and as they age require services to meet their educated interests.

A City of Swan survey, which combined a pilot project/survey of the Baby Boomers, highlighted that 57.8% of the Boomers used the library service for recreation and 32.4% of the Boomers used the service for general interest and formal learning.

In general the literature states that the Boomers are voracious about information, technology and learning and their expectations are high.

Although inspired by the Boomer research the program was developed with all adult community members in mind.

Access to technology and library resources is one avenue in which public libraries can progress lifelong learning within the community. The question however must be asked, 'Do public libraries offer any other services that can complement and enhance the traditional role and services? The answer to this question can only be in the affirmative as public libraries offer Services for Young People, Services for Seniors, Services for Ethnic Community groups, the Aboriginal Community and the Business Sector.

Continuous information programs in the form of a lecture series for adults are another channel to promote lifelong learning.

Expansion of public library services and partnerships with other service providers or organisations are essential in the future if we as a community institution want to remain relevant and meet community needs. .

The topics and associated lectures in the City of Swan project were selected for all adult ages resulting in a program that did lend itself to intergenerational participation - Baby Boomers, Silent Generation and Generation X.

The anticipated outcomes of the project were:

- Increased knowledge
- Social interaction
- Empowerment and independence
- Mental stimulation
- Development of new skills and awakening of new talents
- Breaking down of generational barriers
- Communal belonging
- Recognition of the value of older persons in our society
- Awareness of public library resources and services

The project was launched on 8 March 1999 by the Minister the Hon Rhonda Parker. The inaugural opening of the lecture series and program commenced on 12 March 1999 and concluded on 24 September 1999.

Although the majority of the lectures were hosted by the Midland Public Library, three other public libraries, namely Altone Park, Ballajura and Guildford Libraries within the system participated in the program. In total eighteen lectures were presented.

The official program, which is included as an Appendix to the paper, was aimed at providing learning opportunities and life skills and all sessions were free.

Many of the speakers were from the University of Western Australia Extension Program and some of the topics addressed were:

- Growing Old Outrageously
- Retiring Gracefully
- Revealing the Mysteries of Forensic Science
- Nutrition: Facts, Lies and Opinions
- Writing an Ordinary Life
- On the Eve of the Last Millennium
- UFOs and the Paranormal

Music also formed part of the lecture series. The local orchestra (Hills Symphony Orchestra) provided a delightful Sunday afternoon Millennium Concert with a guest singer in the Guildford Grammar Chapel a private school in the City of Swan.

The lectures were held on a Friday evening in the Council Chambers at the City of Swan. The City of Swan Council Chambers are located in the Civic Precinct which includes the Midland Public Library. The sessions at the other libraries were conducted in the respective libraries.

741 persons attended the combined sessions and at each session evaluation forms were circulated and later collated and assessed.

Evaluation of the Program

The evaluation forms sought the following information

- Demographic information
- Value of the program
- Awareness of ageing and Seniors
- Overall evaluation of the program
- Effectiveness of promotional material and advertisements

366 evaluation forms were completed however responses were not received to every question.

Demographic Profile

- 37% of the attendees were born outside Australia
- 76% were library members
- 44% resided in the City of Swan
- 55% were aged 54+ and only 28% of the Baby Boomers attended

Value of the Program

- 53.6 % recorded that they had learned new knowledge
- 63% recorded that their knowledge had expanded
- 67% stated that a new interest had been awakened
- 31.6% had gained social interaction
- 14.3% had developed a new skill

Awareness of Ageing and Seniors

- 60% of the attendees stated that the program had made them aware of ageing and seniors
- 40% noted that awareness had not been achieved

Overall Evaluation of the Program

- 93.2% responded that the program had met their expectations
- 94.3% considered the content of the program to be high
- 92.2% considered the presenters to be of a high standard
- 85% found the venue to be of a high standard.

Effectiveness of Promotion and Advertising

- 40% learned of the program through the local newspaper, 38% through the library service and 22% by word of mouth

To address the needs of community members with a disability, a special Reminiscence Theatre program was presented to residents of several nursing homes in the local area. This was a well received event, which awakened many memories through the medium of drama and music.

As a celebration of the lecture series project, a farewell evening was organised where participants and lecturers met in the Council Chambers of the City of Swan for an evening of entertainment, socialisation and refreshments. A singer was engaged for the evening and a performance by a Spanish Dancer and players was in addition offered.

Overall the program was highly successful although the Baby Boomers' attendance was lower than expected. The 54+ age group through their attendance rate demonstrated that they too have a need for lifelong learning.

The project was very demanding of staff time however it did prove to be a valuable learning experience for the staff and an excellent exercise in team effort. Based on the attendance rate and the assessment of the evaluation forms, the lecture program proved to be a very worthwhile project which created heightened awareness of the public library within the community and at the same time contributed to the lifelong learning process.

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APPENDIX

PROGRAM OF EVENTS

LIFE LONG LEARNING -

THE KEY TO KNOWLEDGE

12 March	**Growing Old Outrageously**
7.00 pm - 9.00 pm	Presented By Carol O'Brien

26 March	**Writing An Ordinary Life**
7.00 pm - 9.00 pm	Presented By Kay Caporn
9 April	**Holidaying In Rural France**
7.00 pm - 9.00 pm	Presented By Michael Tassell
19 April	**Growing Old Outrageously**
7.00 pm - 9.00 pm	Presented By Carol O'Brien
23 April	**An Introduction To The Bibbulmun Track**
7.00 pm - 9.00 pm	Presented By Beckie Shrimpton From The Friends Of The Bibbulmun Track
14 May	**Nutrition: Facts, Lies And Opinions**
7.00 pm - 9.00 pm	Presented By Glen Cardwell From The Nutrition Consultants
21 May	**Writing An Ordinary Life**
7.00 pm - 9.00 pm	Presented By Kay Caporn
28 May	**Meditation**
7.00 pm - 9.00 pm	Presented By Eric Harrison
11 June	**Midlife: Finding Meaning In The Madness**
7.00 pm - 9.00 pm	Presented By Rachel Green

18 June **7.00 pm - 9.00 pm**	**Revealing The Mysteries Of Forensic Science** Presented By Dr Clive Cooke
27 June **3.00 pm - 5.00 pm**	**'A Century Of Music'. A Millennium Concert** Performed By The Hills Orchestra. Guildford Grammar School Chapel
9 July **7.00 pm - 9.00 pm**	**Retiring Gracefully** Presented By Ken Barrett
23 July **7.00 pm - 9.00 pm**	**Falling In Love** Presented By Roz Macnish
13 August **7.00 pm - 9.00 pm**	**UFO's And The Paranormal** Presented By Simon Harvey-Wilson
27 August **7.00 pm - 9.00 pm**	**Numerology** Presented By Stev Slavin
10 September **7.00 pm - 9.00 pm**	**Revealing The Mysteries Of Forensic Science (Midland Public Library)** Presented By Dr Clive Cooke
17 September **7.00 pm - 9.00 pm**	**Revealing The Mysteries Of Forensic Science (Ballajura Public Library)** Presented By Dr Clive Cooke

24 September	**On The Eve Of The Last Millennium**
7.00 pm - 9.00 pm	Presented by Tim Johnson

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Proceedings

Taking the initiative: Ensuring an educational role for libraries in the information society Stream: Education and information literacy

Nikki Kallenberger

Commitment to Learning

Amongst the values of the State Library of New South Wales is 'commitment to learning'. This is reflected in the Library's mission statement:

> Our mission is to inspire, educate, inform and entertain by providing quality library and information programs to support the cultural, research and educational needs of our clients.

With a commitment to learning, and a mission to educate, the State Library of New South Wales has become increasingly proactive in our educational endeavours. For too long, we, like many libraries, have 'sat back' and waited for harassed students to appear, assignments and questions in hand, deadlines looming. We've helped them find answers and resources, helped them find their way through our stacks and indexes, helped them develop information handling skills ... we've cursed the lecturers and teachers who have set questions that can only be answered by the one article in the one journal that disappeared a week ago and can't quickly be replaced, and we've cheered the ones who've provided challenging but achievable information-based learning experiences. We've watched the focus of the educational process move from teacher-centred to learner-centred, from reading textbooks and taking notes to interacting with resources of all descriptions. We've watched learning move out of schools, colleges and universities into the workplace and other real life situations.

We've watched new terminology find its way into our indexes and catalogues: lifelong learning, flexible learning, situated learning, collaborative learning . . .

and we've played a big role in providing significant learning infrastructure (technology, resources, mentors, research expertise, etc). We've acknowledged that information use is an active process, and that information-seeking behaviour varies from person to person. We've re-designed our service delivery to meet the needs, interests and abilities of individuals. We've collaborated with other libraries to expand our capabilities. We've marketed our services, sought feedback from our clients, and on the basis of that feedback, designed and developed new approaches to information provision.

But all along, with respect to our mission to educate, we've really been working from the sidelines, not on the field of play. Now, at the State Library of New South Wales, we're finding our way onto the playing field, carving out a changing role for libraries in the educative process. The four case studies described in this paper are four ways in which we are ensuring our commitment to learning is more than just words on paper.

Shared Responsibility for Graduate Education

The section that follows has been taken from 'Challenging The Boundaries Of Graduate Education For Information Professionals In Australia: Real World Learning For A Virtual Information World' by Niki Kallenberger (State Library of New South Wales) and Dr Ross J. Todd (University of Technology Sydney), *in publication.*

A shared learning environment for graduate information studies students has been collaboratively developed by the State Library of New South Wales and the University of Technology, Sydney, as a result of as a Strategic Relationship Agreement signed by the two institutions in May 1999. With a strong professional focus on the development of digital libraries, the subject 'Virtual Information Collections, Resources and Services', is delivered by and at the State Library, so the learning environment and the professional practice environment become one and the same. For the nearly 20 staff from both institutions who have been involved in the initiative, and the nearly 60 students who have completed the course, or are currently enrolled, this collaboration offers an exciting opportunity to embark on a new and rewarding shared learning experience.

Developments in the digital information world and how these were shaping professional information work provided the context for the learning environment, and the focus of the content to be covered. The State Library of New South Wales provided the real 'virtual library' in which this learning could take place. The Library has been involved in the development of digital service delivery for more than 20 years, and has gathered considerable expertise. But it also recognises that there is still much to learn.

The Library has long been committed to professional leadership and has provided diverse education and training opportunities for the profession for many years. The opportunity to be formally involved in the delivery of university-based professional education has enabled the Library to integrate its rich theoretical understanding of virtual information management, ever-increasing practical know-how and educational expertise to create a formal learning experience situated in the real world of the information professional, thereby providing rich opportunities for deep learning. In turn, the Library recognises that the experience will return benefits to itself, as well as to the university and the students involved.

The subject objectives show that the focus on digital information resources and services and virtual collection development and management is set against a backdrop of traditional information resources, services and their management. As stated in the subject outline, the objectives are:
In this subject, students will:

1. *understand and apply client-centred concepts and principles in the management of traditional and digital information resources and services;*
1. *analyse policies, practices, and standards related to content development and management in traditional and digital environments;*
2. *identify and apply principles of service design for virtual information environments;*
3. *critically evaluate contemporary issues in information provision and their implications for content development, selection and management;*
4. *understand key aspects and trends of the information technology infrastructure and their implications for content development and management;*
5. *be able to carry out needs assessment and evaluation of virtual information collections, resources and services.*

In order to situate learning in the practice context of a digital information environment, the subject is delivered on site at the State Library over six Saturdays, from 9.00 am - to 4.00 pm each day. A case study approach is used, providing real world experiences of virtual library management but at the same time elucidating the underpinning theories and principles of virtual information resources, services and their management. Nine content areas provide a focus for the six full day sessions. These are: Making the virtual library happen; Content management; Information design; Enablers and barriers; Technology choices; Funding and resourcing; Communication; Research and evaluation; and Possible futures.

Learning strategies include interactive lectures, workshops, discussions, readings, and group investigations, enabling students to engage actively in the case studies to develop key theoretical frameworks, explore practice realities, and to identify key issues, trends, problems and solutions. Three assessment tasks are specified: a response to a significant issue in virtual information management; a team-based investigation and presentation that centering on a real issue in the virtual information environment; and a learning log, which giving students an opportunity to reflect on their learning, as well as explore in more depth areas of particular interest. The open-ended nature of the assessment tasks allows students to explore areas of individual interest within the digital information environment, but assessment criteria for each task focuses on demonstrating both indepth conceptual and practice-based understandings of the area being explored, and how these understandings construct appropriate virtual library services.

Note: The subject outline for Virtual Information Collections, Resources and Services can be found at

http://www.uts.edu.au/fac/hss/Departments/DIS/VIC/outline.html

Evaluation conducted at the conclusion of the first semester revealed high levels of satisfaction amongst Library staff involved in delivering the subject, as well as students enrolled in the course. The value to the Library as a whole of an undertaking such as this is difficult to measure. Anecdotally, staff agreed that the need to articulate the whys and wherefores of what one does, and to situate this within broader theoretical and professional frameworks rather than just 'doing' had many benefits. In some cases, involvement in the subject provided a welcome opportunity to rethink the whys and wherefores. The interchange of ideas, the chance for staff who do not normally interact to work together, the questions and feedback from students all contributed to the intangible benefits of the Library's involvement.

Another benefit to the Library was the opportunity to interact with those new to the profession. As one staff member said, 'I think it's good from our institutional point of view that we're involved with people who may or may not work here but will probably have some connection to us somehow further down the track.' The provision of the subject was very much in keeping with the Library's corporate priority to 'provide strong leadership in library and information services through excellence in our own activities'.

Feedback from the students about all aspects of the subject was very positive. The majority of students believed all subject objectives were 'fully' or 'mostly' met, and all students agreed that the subject was well planned, the issues were important, the strategies used were effective and that overall, the subject was successful. Students valued learning 'in the real world' and having the opportunity to see first hand practical, working examples of what they were learning about. Perhaps more importantly, they identified that the opportunity to engage in real world opportunities where they could apply their theoretical understandings to meaningful professional experiences, and at the same time deal with the issues in reflective and evaluative ways, were immensely valuable. The learning leadership of the group mentors in this process was identified as particularly valuable. For the students, learning was seen as both a shared and iterative experience, one of active and ongoing engagement between the world of ideas and the world of practice.

Situated Learning: From Work Experience to Industry Placements

The Industry Placement Program of the State Library of New South Wales is designed to ensure students from a wide range of disciplines gain real industry experience relevant to their classroom learning and career interests. Previous work experience programs tended to be generic and prescriptive training programs from a student's point of view, and consumed large amounts of staff and time resources for minimal returns from the Library's point of view. The move to an Industry Placement Policy has been beneficial to both students and the Library.

The program matches the knowledge, skills, needs and interests of students with a project that furthers the Library's work. Each placement, whether individual or team-based, integrates project objectives and student learning needs into a learning agreement. Students completing a project-based placement will have a clear statement of the learning outcomes they have achieved.

A student who wishes to be considered for a placement completes an *Expression of Interest* form. This helps the student clarify what he/she hopes to gain from an industry placement at the State Library and provides the Library with information about their career and academic interests. The

State Library does not guarantee that an industry placement will be provided as a result of submitting an Expression of Interest, but uses the information thus collected to match students and projects.

Preparation is essential to ensure that placements are productive. Before a placement begins, the student and placement supervisor draw up a learning agreement. The agreement should lists learning objectives, strategies and outcomes and is agreed to by the student, the Library and the academic institution from which the student comes. This preparation can be done either in person, or by phone, fax or email. The Library provides each student with a short induction program, and resources that have been identified in the learning agreement. These may be reports, equipment, or access to staff and industry contacts.

By the start of the placement, the student and supervisor will have agreed on a schedule that allows the student to work towards achieving the agreed learning outcomes. The schedule will include a mid-placement review meeting and a debriefing to evaluate the placement. At the completion of the placement, the State Library provides each student with a statement of the learning outcomes achieved.

Two recent examples of industry placements exemplify the mutual benefits to be gained from this approach. Mary, studying for a Masters in Special Education, Sensory Impairment, at the University of Newcastle, wanted to learn more about how people with a visual disability can access information resources in order to integrate appropriate techniques into her teaching practice. A number of small projects identified by the Library's Disability Access Service were matched with Mary's learning objectives. Following a short induction program Mary set to work locating and evaluating self-voicing Internet browsers; large print and speech shareware and freeware programs; investigated proposed client use of a braille embosser; made site visits to four public libraries with adaptive technology to investigate service issues; and demonstrated adaptive technology at a Web Accessibility workshop. As a result, Mary has expanded her knowledge and skills of information access and provided the Library with an information resource to assist public libraries in providing access to electronic resources. State Library clients and staff will also benefit from the work Mary did.

Fiona, a Bachelor of Arts, Library and Information Sciences student at Charles Sturt University, had significant experience in both schools and libraries, prior to beginning work at the National Library of New Zealand four years ago as a reference librarian. Fiona had specific interests in digital access to information and marketing of new services and products. Her industry placement gave her the opportunity to prepare a marketing plan for the Australian Pictorial Thesaurus, and thus a chance to explore both digital developments and marketing issues in an Australia-wide context. It gave the Library a much-needed marketing plan, which has since been implemented. In her evaluation report, Fiona noted that a project-based placement, such as she experienced, was a particularly stimulating opportunity for students with experience working in libraries. It also gave her a chance to experience the 'real' world:

> 'I now have a greater understanding of the time consuming process that is undertaken in digitising collections, and have an understanding of the actual methods as to how this occurs, and what are some of the problems that can happen - '

The move away from our existing work experience program and the development of an effective industry placement program has not happened overnight, nor without considerable effort, but the gains for both students and the Library are already big enough to assure us we're on the right track.

Lifelong Learning: Support for Researchers and Independent Learners

Clients use the State Library of New South Wales for a wide variety of reasons. Their knowledge of our collections and services and their skills in information use and handling vary just as widely. Many of these clients are students formally enrolled in many different courses. Others describe themselves as students, even though they are not formally enrolled in a course. They may be studying their family's history, a new business opportunity or a particular interest. All these learners find that to make the most of their research time, they need to learn about the Library in order to work independently and confidently. Assisting clients to become increasingly independent in their use of our services and resources is currently a significant goal for the Library.

The Library's Communicating with Clients Working Group recently identified five main areas in which clients need assistance to become independent users of the Library. These areas are listed here, together with examples of the kind of questions asked by clients who have not used the Library extensively:

- *Assistance with procedures*

Where are the lockers?

How do I get a book from stack?

- *Assistance with research skills*

How do I get started?

What are the best keywords to use in my search?

- *Assistance with catalogues and indexes*

Do you have this book from my course reading list?

I'm looking for a recent interview with Nelson Mandela.

- *Assistance with specific subjects or formats*

Where will I find an atlas?

I need some information about my rights as a tenant.

I want to see *The Sydney Morning Herald* of the day my father was born.

- *Assistance with new services, or changes to existing ones*

What new Internet sites are available in my area of interest?

As clients become more sophisticated in their knowledge and use of the Library's collections and services, and more skilled in the process of research, their needs, of course, change:

- *Assistance with procedures*

How do I clear copyright to use this image in my publication?

How do I acquire a photographic reproduction of a newspaper?

- *Assistance with research skills*

Can you help me identify appropriate databases to use in my research?

How can I confirm the credibility of this source?

- *Assistance with catalogues and indexes*

I understand you have diaries written by soldiers at Verdun. I'd like to read them.

How do I access the Vaughan and Van Manen Chess Collection?

- *Assistance with specific subjects or formats*

I'm looking for images of an actress from the 20's.

Do you have any posters or flyers from the anti-apartheid protests of the early 70's?

- *Assistance with new services, or changes to existing ones*

What new resources in my area of interest has the Library recently acquired?

How can I use the Mitchell Library collections during refurbishment?

The Library employs a number of strategies to address these needs:

- *Signage or physical location devices*

eg, Signage in photocopy areas

Floor plans of State Reference Library

Colour-coding of PCs

- *Print and electronic resources*

eg, Print publications such as *Update*, *What's On*

Internet directory on website

Self-guided tour brochure

- *One-to-one services*

eg, Reference desk services

Roving staff at point of use

- *One-to-many services (ie, courses, workshops and tours)*

eg, Introductory tour

Following trails: Researching History at the State Library of New South Wales

Introduction to Library Research Skills of

Rather than discuss all these strategies, this case study will examine the development and delivery of two of the courses offered by the Library's Education and Training Branch: the *Introduction to Library Research Skills* program offered to secondary and tertiary students and *Following trails: Researching History at the State Library of New South Wales*.

Introduction to Library Research Skills (ILRS)

Designed to introduce students not only to the State Library of New South Wales, but also to researching in a large library, the program is offered to class groups accompanied by a teacher. One of the Library's Education Officers presents the two-hour session, which aims to 'get students started'.

Students are welcomed and given a brief overview of the Library, and then the focus shifts to the research process. We use the six step information skills process of the NSW Department of Education and Training's *Information Skills in the School* (1989), as the basis of our session, as many (but not all) students and teachers are familiar with it. Amongst other activities, students brainstorm sources of information. Given the diversity of our collection at the Library, it's a good opportunity to remind them that valuable information can be found in many other places besides books and the Internet.

Drawing on current research activities the students are engaged in, we model the *defining* step of the process, generating keywords and a search strategy. These keywords are then used as examples when we demonstrate the Library's catalogue and appropriate indexes. Students then move to computers to search the catalogue and indexes themselves. The session ends with a tour of the Library, including a visit to stack. Seeing even a small bit of our vast storage areas and realising they simply can't browse the shelves like they do in smaller libraries very effectively reinforces the need for a thoughtful research strategy.

Feedback from students is very positive, and nearly all indicate that by the end of the session, they have a clear idea of where to start their research. In reality, most class groups stay on at the Library for the rest of the day, so students get an immediate opportunity to put their learning into practice. Teachers like the program so much that we see them year after year. In fact, we don't promote the program other than by word of mouth, as demand readily exceeds capacity. We charge $16.50 per student, with discounts offered to disadvantaged schools.

Following trails: Researching History at the State Library of New South Wales

Designed with a very different clientele in mind, *Following Trails* was developed in collaboration with the Royal Australian Historical Society, and aims to maximise each participant's effectiveness as a researcher at the State Library of New South Wales. The course is jointly led by one of the Library's Education Officers and a practising historian, and also employs specialist staff from throughout the Library. The course runs for eight three-hour sessions, delivered at fortnightly intervals. A fee of $275 per person is charged.

The course program 'unpacks' the Library collection by collection. Each presenter has a role to play: the subject specialist shares his or her in-depth knowledge of the particular collection, the historian discusses the role such resources can play in the process of historical research, and the librarian/education officer demystifies the process of accessing sometimes difficult to find resources and, with the historian, provides a broader research context. Here's a typical program for the course:

Week 1 Frameworks for historical research

Researching in the State Library of New South Wales

Tour of Mitchell and State Reference Libraries

Week 2 Computer catalogues, printed books card catalogue, scanned card computer catalogue

Week 3 Manuscripts, Australian Joint Copying Project

Week 4 Pictorial resources, newspapers

Week 5 Maps, ephemera

Week 6 Serials, CD-ROMs

Week 7 Internet

Week 8 Research presentations

Participants undertake a research project of their choice, thus giving them a real purpose to put what they're learning about the Library's collections into use. Each session builds on the previous one by sharing the research discoveries (or frustrations) made by members of the group in the intervening week. The course concludes with each participant reporting on both the products and processes of their research.

The response by participants in *Following Trails* has been very positive, as these quotes from participant's course evaluations show:

> *My skills were very limited before the course. I was dependent on the goodwill of the librarians. Thanks to the course I am now aware of resources, locations, a plan of attack and other possibilities to pursue.*

> *I now feel able to take on a research project for my work. This not only gives me confidence, it also stimulates my enthusiasm. Hopefully it might add to my career credibility and status, too. As a by-product I've also started writing some children's historical novels. This would never have occurred to me before the course.*

These two courses are but two ways in which we're trying to meet the needs of lifelong learners. While our secondary students may not come with lifelong learning on their agendas, we hope that by putting our introduction to the State Library of New South Wales into a bigger picture of effective library research, they'll be better equipped to take some of their skills and understandings with them as they move beyond school. But we have plenty of evidence that lifelong learners such as our historians are welcoming the chance to expand their skills and understandings in a new educational environment - and enjoying the rewards this learning brings!

Meeting the Needs of Individuals: Infocus, the HSC Resource Service

Infocus: linking people and information, an innovative service of the State Library of New South Wales, aims to provide students with timely, relevant information for their study of the NSW Higher School Certificate (HSC) curriculum. It is a significant means of serving a very specific group of clients, without the constraints of geography or time.

Developed in collaboration with personnel from school and public libraries, Infocus expands the range of resources available to these students by providing reproductions of resources held by the State Library. These reproductions include journal, magazine and newspaper articles, as well as some of the Library's unique heritage materials such as photographs, ephemera and diaries. With a collection of nearly 5 million items, the Library has much to offer students, as well as their teachers.

Students and teachers alike value the diversity of viewpoints and text types Infocus offers. Infocus resources are drawn from Australian and international sources, and often include items difficult to locate in typical school or public libraries. Although material is specifically selected to support students studying the NSW HSC curriculum, much of it will be useful to senior secondary students studying other courses.

Infocus currently operates a membership-based service for schools, public libraries, TAFE colleges and other organisations. A credit deposit system is offered to members to ensure paperwork is kept to a minimum. All orders, be they from members or casual users of the service, are filled quickly, typically on the same day they are received.

Because all items reproduced by Infocus have been copyright cleared - either through a license agreement with the Copyright Agency Limited or through direct negotiation with relevant copyright holders, member libraries can add Infocus resources to their collections. This feature gives Infocus an edge over inter-library loan document supply schemes.

Infocus will soon deliver all of its services online. Visit the Infocus website at http://infocus.slnsw.gov.au to see the first stage of our online developments. You'll be able to explore the more than 1550 resources Infocus currently offers. At this stage ordering still requires a paper order form and payment by cheque or credit card. However, preparation for full electronic ordering and delivery is well underway, and it is anticipated that many Infocus resources will be available in electronic format by early 2001.

As Infocus services begin to be delivered electronically, we expect contact with HSC students themselves to increase. We will have an opportunity to work more closely with the tens of thousands of HSC students throughout NSW in a way that would otherwise be impossible.

Making the Commitment Tangible

As these four case studies reveal, the State Library of New South Wales is no longer content to sit back when it comes to education. We believe libraries can and should claim a more significant position in the education sector. Libraries have the skills, resources, understandings and expertise to make a contribution which is of great value to those involved in learning. We know that other libraries share our commitment to learning. While we are finding ways to make this commitment tangible, we know that other libraries are finding other ways to do the same. We're pleased to have shared our initiatives with you, and look forward to hearing about yours.

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Proceedings

The Greying of the Teacher Librarian

Jan Kaye

As I am sure you have been informed, the person reading this paper is not Jan Kaye. I am recovering from a broken neck - not to mention a severe case of annoyance that I have been forced to miss the ALIA 2000 Conference - and am not sufficiently fit to travel. Although I know this is probably embarrassing Judy, I would still like her to publicly acknowledge, in my own words, how grateful I am for her offer to read my paper. We all write and present differently, and bringing to life someone else's presentation is daunting. Thank you, Judy.

This is not the most scientifically based paper I have ever written - it is more a stream of consciousness - but it relates to an issue that has concerned me since I returned to teacher librarianship five years ago. The greying of the teacher librarian obviously refers to one aspect of the issue: the fact that so many of our profession are ageing. However, what I want to do in this paper, having raised the issue, is to look at the who, why, what, where and, most importantly, the so what of the issue.

The 'who'

It began when I was attending one of those software user group meetings we rush to between the end of a long, hot day with recalcitrant students and unco-operative colleagues, and the beginning of the next shift, our personal commitments. By the time I found where I was meant to be, the meeting had begun . . .

Picture a hot afternon; no air-conditioning; approximately thirty-five teacher librarians are taking turns to bring up their particular issue/complaint about the software package and its latest update; I had counted all the books on the reference shelves in my view and I was bored.

It suddenly hit me that all the TLs around the table were female, none of them were in their twenties, and many, like myself, were too close to fifty. Another flash: this was the sixth year of my second stint as a TL, the first one being in the late seventies and early eighties, and many of the faces at the table were ones I remembered from meetings twenty years ago. In my years away from school libraries I had worked in TAFE, law and university libraries; established an information consultancy and an employment agency for library staff; lectured at university; and generally had a break from secondary schools but most of my colleagues had not had that break. They, to their credit, had stayed in the game. Yet here we were still - older yet not having gone much further in either the education or the librarianship hierarchies. .

It also occurred to me that I had returned to teacher libarianship by obtaining a position arising from the early retirement of a female TL; that when I left that position for my present one at All Saints' College I had replaced another female early retiree; and that the person who had filled the position I had left, whilst being a male, had come from a similar position in another school, not from the ranks of my junior colleagues.

Here we have the essence of the 'who': the greying TLs are mainly females, mainly in their forties and fifties, and many are thinking seriously about retirement.

The 'why'

Let us move on to the 'why'. Why mostly women, between the ages of forty and late fifties, and thinking seriously of retiring?

There are mostly women in the ranks of the greying TLs because modern librarianship has traditionally attracted fewer males than females. That number dwindles as the years passas many men are promoted, mainly because, unlike their female counterparts, they have not taken time out of the work force to raise children or to be with their partners as they moved along their career path. When these women were of an age to seek promotion, they were less experienced because of their time out of the work force. If they had not left the workforce and therefore remained competitive, they faced interview panels composed largely of men who, as empathetic interviewers are wont to do, preferred candidates 'in their own image'. Of course, this is not a phenomenon confined to the library field, and has fortunately been moderated by Equal Employment Opportunity legislation but too late for many of the women about whom I am writing.

The question of why women in their forties and fifties may seem patently obvious - that is when the grey hairs really takes hold - but I think there is something more. For all the sweeping generalisations based on her narrow world-view of life in the fast and wealthy lane, Elizabeth Perle McKenna, in her book When work doesn't work anymore: Women, work and identity (Delta, 1998), made the point that women who have tried to be super women are now beginning to think that the price they have paid to achieve this is too high. Women in their forties and fifties, and many others I am sure, are questioning whether, in their quest to achieve excellence in their career, they have compromised their rest of their lives. Many women who wanted what men had - the right to equal pay for equal work, to apply for promotional positions, to assessment based on merit, and to work like men - are changing their minds. They want more balance between work and the rest of their lives and, incidentally, many men do too.

Part of that shift in thinking involves the retirement issue. Women in their forties and fifties are beginning to question whether working until the age of retirement at sixty-five is so important. They are ably supported by the enormous number of self-therapy booksand media chat show programs devoted to the issue, not to mention advertisements for banking service and financial advisers urging them to invest for their retirement.

Perhaps another factor that is encouraging these women to retire earlier is the realisation that there are few promotional opportunities available within schools for them. As senior librarians or heads of departments they should have the same chance as curriculum heads of departments in the dean of studies, dean of students, vice-principal and principal job market. Teacher librarians, however, have very little success in this area.

Teacher librarians must have the over-arching view of the entire curriculum in order to resource it; they interact with students of all ages, and provide a safe haven and counseling for students who are having both learning difficulties and difficulty relating to their peers; they are leaders in their field, have excellent management skills, are good team builders, are articulate, communicate effectively, and have highly developed IT and research skills; yet they are rarely successful in applying for executive level positions.

The 'what'

Having addressed the 'who' and the 'why', let us now consider what is happening in school librarianship as its professionals age. In a nutshell, the older TLs are getting older and probably more worn out, and there are few young TLs replacing them.

Obviously we cannot do anything about the ageing process but what is being done about replacing us? In particular, what are we doing about replacing ourselves? Very little in my opinion.

Mentoring of younger colleagues is not routinely done or expected. I have never been asked in a job interview whether I am a mentor or whether I think it is a good idea. It has never appeared on any job description or duty statement I have seen. Some TLs do, some do not but I contend that, without it, the future of our profession is being compromised.

Having said that I accept that many of us are overworked, and the thought of finding time to be a formal mentor would surely be the straw that breaks the camel's back. I have volunteered as part of the WA mentor scheme and failed miserably in my duties through lack of time. However, there are ways of being a mentor that can more easily be fitted into one's schedule.

The first is to mentor the person directly below you in seniority - your off-sider - as your replacement. By doing so you empower the person to fill your position when you take leave, apply for your position should you go elsewhere, or apply for a promotional position in another school. One of the most telling signs of a good leader is the success s/he has in facilitating junior colleagues into senior positions.

The second is ensuring junior colleagues gain experience in meeting procedure and in filling committee positions. This is best done by initially encouraging them to attend public meetings of professional bodies, encouraging them to seek office, and supporting them if they choose to do so. It sounds like so much commonsense but it is not always happening. By our very demeanour as older women we may unnerve some of our less-experienced colleagues. In some cases, the unnerving may be more covert. One of my colleagues, less experienced as a latecomer to teacher librarianship but not young and not easily intimidated, went to a public meeting at the beginning of this year. When she arrived, she was the only non-committee member and was welcomed by one of the executive members of the group with the words, "What are you doing here?" Hardly welcoming.

We can also mentor our colleagues by limiting the time we hold positions of office in our professional bodies. In some organisations, the office bearers have been in the job for so long that even the most assertive are put off standing against them; and the words of the president, "Jane Doe has kindly offered to continue in her position again next year" tolls the death knell for many an aspiring committee member.

The other half of the story is the fact that few school leavers are attracted to librarianship. The lack of 'new recruits' to the profession, of school librarianship in particular and librarianship in general, is not a new phenomenon. At the end of 1993 I was a Research Fellow in the School of Information and Library Studies at Curtin University investigating, amongst other things, the reason why so few males were entering the undergraduate library course. With the benefit of hindsight, we should have been looking at the reasons why so few students per se were enrolling. The words of one girl in her final year of secondary education have stuck in my mind:

> "I've always wanted to be a librarian but mum and dad think I can do much better than that. They think it's boring and that I should do Marine Biology."

I imagine we have all complained about our jobs from time to time but one thing on which we can all agree is that librarianship is not boring. However, in the mid-seventies, when I transferred from being a language teacher to being a TL, my colleagues wondered why I was opting for a more boring job. When I ran an employment agency for library staff in the eighties, one friend wondered aloud how I would make money as there could not be that many boring people in Perth who were looking for employment in the library field. In the nineties, when teacher librarianship involving being one of the often very few, if not the only, teachers able to converse with the IT Manager with a measure of understanding, our colleagues considered our jobs as boring.

Here we are, on the brink of the new millenium and many people still hold fast to the idea that librarianship is boring. As teacher librarians we are doubly damned. School teachers have little or no standing in the community in Australia, unlike the high regard in which our colleagues are held in some of our Asian neighbours such as Singapore and Korea. Librarians are dull, colourless and boring. Teacher librarians? What sort of a no hoper job is that!??

The 'where'

I use that Americanism 'no hoper job' advisedly because, although I am discussing the problems associated with the greying of the teacher librarian in the Australian context, a similar situation exists in the United States. If you are a subscriber to LM_NET, the American equivalent of OXTL_NET, you will have seen emails detailing the current woes of the profession in that country.

Fewer students are entering library schools because, in America's booming economy, they are drawn to more lucrative careers. Budget cuts have seen many positions eliminated; in some states the pay is very low; and the increased workload has either caused media specialists to leave their job or has acted as a deterrent to attracting teachers to retrain. In one district, where free library science school tuition was offered by the local authority, only four teachers among thousands accepted the offer (Lord, 2000, p.53).

Whereas we do not have the same conjunction of economic, political and demographic trends currently present in the US, there are lessons to be learned.

For example, the trend in public sector education in Western Australia is to give schools increased administrative autonomy. In particular, the Education Department is moving away from hiring and firing teaching staff and giving that power to the principal. In some schools, this has led to teacher librarians having to take on a subject teaching load that compromises library service. In the United States, this autonomy has gone one step further: many principals are deciding not to employ media specialists because they no longer have a mandate that requires them to do so (Everhart, 2000). In her annual survey of staffing in school libraries in the United States, Everhart found that only seven of the top ten states surveyed had staffing mandates, and only three of the bottom ten states did. With fewer librarians being trained, principals can justify their decision: you cannot hire trained personnel if there are insufficient being trained. Certainly in A, TLs need to be mindful of the trend and lobby for library staffing standards to be met.

Another example, and one we share with the US, is that of having fewer library studies schools at tertiary level. In WA, for example, the School of Information and Library Studies, as it was called when I was a staff member six years ago, is now a part of the media school, and constantly struggling to maintain a strong presence. The closure of library schools and the resultant loss of graduating library studies students represents not only a lessening of the pool of librarians. Everhart found that the absence of leadership provided by library schools "can be crucial to well-staffed media centers, since state directors develop and oversee standards, co-ordinate statewide initiatives, obtain grant money, offer professional development, and generally keep school libraries uppermost in the minds of legislators." (2000). Whilst this is not quite the role library schools play in Australia, the loss of leadership at this level does mean there are fewer strong advocates for school libraries.

The 'so what'

In conclusion I would like to move to the 'so what' of this paper. So, having looked at some of the issues relating to the greying of the teacher librarian, what should we, the elders of the profession, do - if anything?

As busy as we are, I think we must do something. However, as busy people we must think carefully before we commit ourselves to additional work. I am a great believer in taking away workable ideas from a conference such as this, not just being inspired, so you must forgive me for being prescriptive.

I think the first thing to do is to commit to being a mentor if you are not one already. You may do so through a formal ALIA mentoring program - information is available from the website at http://www.alia.org.au/education/mentoring/alia.programs.html, or you could mentor a colleague in your library or a colleague in a school library close to you. Mentoring involved letting go and being open. Letting go of what we have hitherto thought as ours - our position on a committee, our role as chairperson, our own chair or mug. It involves being open enough to share the knowledge we have gained, remembering that knowledge is never lost by being shared. Mentoring involves delegating activities that we may see as being perks of the job - the attendance at seminars and conferences, for example. Think of giving your junior colleague the chance to learn and grow professionally by sharing the registration at local seminars and conferences. These are things that are well within our power to do.

What is less easy but no less important is to endeavour to attract student to teacher librarianship as a career. When there is a career night held at school, make a point of lobbying for someone from the relevant tertiary provider to attend to talk about careers in the library field. Ensure library career displays include librarianship. Have course information available and send additional copies to the school counselor and vocational adviser. Offer to speak about your career, about what you can do with your qualifications other than be a teacher librarian, whenever possible, be it at your school or in the local community.

The last thing I would urge you to do is to return to your school libraries and, if you have not done so already, look at your professional goals, both long- and short- term. This is not a job for the faint-hearted or over-worked so I suggest you let the topic simmer in your subconscious until the end of term, and approach the task seriously during the holidays. Consider:

- When do you want to retire?
- What do you want to achieve professionally before you do so?
- If that involves a promotion, what is the best way of achieving that?
- How do your professional goals fit with the goals of the school in which you are currently working?
- How do your professional goals fit with the goals of the library in which you are currently working?
- If there is not a good fit, consider seeking a position that does fit your personal goals.

The best we can do as greying TLs is to help others to achieve, to ensure the profession continues, and to ensure we are focussed on and are fulfilling our potential during the years we have left in the profession .

. . and that is probably good advice for teacher librarians of any age.

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Proceedings

You Must Like Reading if You Work in Libraries

Philip Kent

Background

CSIRO, Australia's premier science agency, employs 6,500 staff across Australia. The Organisation conducts research across a broad range of areas of social and economic benefit to the nation including agriculture, minerals, energy, manufacturing, communications, construction, health and the environment. CSIRO and its precedents have operated in a devolved manner for over 80 years. Two thirds of CSIRO's funding comes from government appropriations with the remaining third resulting from sponsored research.

The observations in this paper are coloured by my experience in CSIRO. Disciplines have an influence and my work in a science environment is likely to contrast with Maxine Brodie's comments on the research environment at the State Library of New South Wales. This paper is also influenced by an information technology (IT) perspective.

On the library side, the devolved nature of CSIRO means that at the customer interface, services are delivered in a special library manner, in contrast with the university research library.

Our Environment

We are increasingly influenced by New rather than Old Economy rules. (Cascio 1998) We have seen an exponential growth in service industries with a contrasting decline in traditional workforce sectors such as manufacturing and agriculture. Everyone is 'Working Smarter'

Libraries have not been exempt from these changes and the nature of library work has been transformed particularly through new technologies. Think about what you were doing 10 or 20 years ago (if you weren't in kindergarten!). Think about how much your work has changed! Have you ever tried to explain your job to an elderly relative? A library background inevitably results in perceptions and comments about books. And yet many librarians have little to do with books. Technology is pervasive, at least where I work.

Carly Fiorina, the CEO of Hewlett-Packard who is recognized by Fortune Magazine as most powerful woman in US business has become a cult figure in the IT industry. She is renowned for her intellect, silver tongue and iron will (Barker 2000). According to Carly:

> *We are entering the renaissance of the information age. Everything will be intelligent and everything will be connected. The world we are aligning our company around is a world where any process, any asset, can be turned into a service and delivered over the Web.*

Yes we'll still have books and not everything will be electronic but the challenge for us is to position ourselves for this new world and our changing customer expectations.

Speaking in the context of undergraduate needs for instant information, Martin Borchert (2000) states that:

Undergraduate students are the bulk of our clients and are not that interested in quality. Ninety percent of searchers want to do just a quick search.

The Information Industry

So what is the environment of our information industry? We have greater information on more subjects and increasing difficulty in choosing between what's relevant. The Information Explosion makes choices so much harder. Scientists complain about the wealth of information that has to be trawled for relevance to their scholarly experience.

Science is also changing. In my own Organisation there is a trend away from pure science to multi and interdisciplinary work. We are also hiring psychologists and other social scientists because of the applied nature of scientific research. Science is a global industry and Australia is not isolated. The Internet is pivotal. It has increased our access to global information sources and we now compete alongside other international agencies.

Serials, the currency of scientific communication, are dogged by increasing price rises and exchange rate variations. Ian McCallum (2000) captured the current tragic situation of the Australian Dollar with his quip about the 'Pacific Peso' at the CAUL Industry Think Tank. At an all time low, this poses new challenges for all research and library budgets. While Australia produces only 2% of the world's scientific output, this poses real challenges when information is global and generally is sourced in foreign currencies.

Significant changes have impacted on scholarly communication. Essentially there has been a trend towards commercialisation of the publication process. Many professional societies have found it necessary to align themselves with commercial publishers in order to gain expertise in electronic publishing.

The commercial landscape is also changing regularly with mergers, acquisitions and publishers positioning themselves to ensure survival.

The library and information industry, has traditionally been considered to be a chummy business based on personal relationships between customer and supplier. However the environment has become so dominated by business rules that many librarians can no longer operate as they have in the past.

The Science Environment

To illustrate changes in my customer base, I offer two recent vignettes. The first is one of CSIRO's senior astronomers. When questioned recently about the difference made to his work through technology, he noted that while it took three years to complete his PhD research, he could now complete the same work in three months!

Another very senior research administrator proudly reported that he had written a paper in one afternoon that previously would have taken 2 weeks before the advent of electronic journals. I know this causes some concern to librarians who question the quality of search results from easily accessible electronic materials and I admit that CSIRO does have access to many high quality online journals that other organisations can't access. At the end of the day however it is customer satisfaction that counts.

Certainly we are seeing positive feedback to CSIRO's electronic information architecture and in particular our large locally loaded electronic journals collection. Our scientists are reporting increased value through access to more titles. Access seems to be key. According to Tom Sanville (1999), usage of electronic journals can have little relationship to previous usage of print titles.

Reporting on the outcomes of the PEAK Project, MacKie-Mason (2000) suggests that: 'the digital revolution is not a cost saving revolution. Rather it is value adding.'

Responding to Change

Science has also become more competitive with organisations chasing the same research sponsorship worldwide. On the information side there is an increasing need for competitive business information. One scientist recently expressed this as a need for 'more than science' information.

Some organisations have responded to the changing information needs of researchers through the outplacement of information workers. In these cases, librarians leave the physical library and become members of the research team, located with the team and assisting in their information needs.

Access to world class information products can also provide organisations with a competitive edge. It has been suggested that the breadth of journals now available electronically in CSIRO could be a competitive incentive in recruiting scientists who want the best resources available to do their work.

There are many new opportunities to add value. Librarians know what their organisation is doing, who is working on what and can facilitate linkages. There are many opportunities for non-library information work such as managing internal information sources such as publications, preprint servers, corporate WWW sites, partnerships with records and archives staff and data, information and knowledge management activities.

To add value in these areas, librarians have to dispense with non-core activities and also play a role in to leading researchers with new products and services, new ways of working and highlighting new opportunities.

Disintermediation is an opportunity not a threat. Afterall the outcome of successful parenting is the development and independence of 'children'

Conclusions

To restate an overworked but vital truism, the only constant in our current environment is change. We all have a responsibility to monitor our environment, and to make adjustments in our own area of control.

With change comes new opportunities. We have an opportunity to do more of what we do best, in adding value to our customers through enhanced information services. If we do that, we not only have rewarding futures but we add value to research and Australia.

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Proceedings

Access to Service: Rural and Remote Communities

Robert Knight

Introduction

There is little doubt that rural and remote communities throughout Australia are doing it tough. We hear almost daily of the closure of this agency or the withdrawal of that service, and then promptly forget about it. But it is not until you come face to face with these towns and their constituents that you can even begin to understand their battle for survival. I refer to this syndrome as "rural shrink" because that's exactly what is happening to much of rural Australia. It's hard to say whether the population is diminishing because services are being withdrawn or that services are being withdrawn because the population is diminishing, but there is ample evidence of these losses. Nevertheless there is one agency that does seem to remain constant despite all the other closures - and that is the public library.

Background

In this presentation, I would like to go a little wide of the mark that is indicated in the abstract in order to let members of the audience in on Australia's best kept secret - the public library network. I do promise to touch on the issues mentioned in the program about the delivery of alternative services via public libraries so that I won't be appearing here today on false pretences, however to successfully do that I need to paint a word picture that includes some facts and figures, some anecdotes, and just a little bit of political flavour - just as well we aren't at dinner where discussions about politics and religion are strictly forbidden.

My comments pertain mainly to NSW because that is the region that I am most familiar with, but discussions with colleagues from other states indicate that I could just as easily be referring to any and all parts of Australia.

Public libraries have a long history of co-operation which is in evidence not only in NSW, but throughout Australia and the world. Collaborative strategies have been established through both formal and informal channels to optimise funding and resources, which are and remain historically low for the support of libraries.

The public library network in NSW includes 372 branches which service virtually every community in the state. NSW Libraries are jointly funded by State and local government in the ratio of 10% state and 90% local. There are some 3 million registered library members representing 49% of the total NSW population. In 1998/99 over 45 million items were lent from public libraries which is 7.2 items per person, and there are more than 2,000 full time equivalent staff employed in NSW public libraries. As a matter of interest, there are more libraries in NSW than there are McDonalds! Australia wide there are almost 1,600 public libraries which attract some 90 million visits each year (or almost 5 visits per person per year).

I have provided you with these statistics to give you an idea of the scope and extent of the NSW Public Library network in very basic terms. To translate this information into descriptors of public libraries, the following statements are true:

- **established network** - libraries are part of an established network, and quite often a number of established networks. They already have partners and are experienced networkers

- **public places** - libraries are public places freely accessible to all the community and are open long hours including evenings and weekends
- **staffed by information professionals** - libraries are staffed by people who are trained in the information business
- **existing infrastructure** - libraries as we currently know them reside in buildings which provide the entire infrastructure required for them to perform their function. They are therefore well placed to extend their function to other areas
- **highly valued and well patronised** - libraries have strong community links, with 50% membership across the state and over 30 million visits each year statewide and 90 million nationally. Over 95% of the Australian population consider libraries either very important or important in their community
- **part of a broader organisation** - libraries are financially supported by their local councils and communities. There is potentially considerable strength and many resources to be drawn from this association
- **community focal points** - libraries are a focal point for the communities which they serve; people already attend libraries for a broad variety of purposes
- **wide geographical distribution** - libraries enjoy a wide geographical distribution; there is access to a library of some description almost everywhere in Australia
- **co-operation between different levels of government** - public libraries are jointly funded by state and local government
- **multi-focussed service providers** - libraries have an expanding brief to adopt broader roles such as acting as government transaction centres

This unique blend of characteristics strongly positions public libraries in remote, rural and regional areas of NSW to expand their role as multi service points for their communities.

This opportunity has been largely overlooked by state and federal governments in past successive attempts to provide equitable access to services and technology to rural constituents. The Federal Government's Department of Primary Industries and Energy telecentre/telecottage initiative in the early 1990's sought to establish technology access points for rural and remote residents in various locations throughout Australia. Funding of $2.8 million was allocated over a four year period, and funding criteria included the requirements that the telecentres be community based (operated by a community organisation), were partly community funded, and offered both training and employment opportunities to community members. This strategy provided funding for the initial 3 year phase of the program, with the aim of each telecentre achieving sustainability at the end of the funding period, thereby enabling them to continue operating as community access points. Unfortunately, the majority of these centres failed to achieve the required level of sustainability and closed either at the conclusion of the funding period or shortly after.

An article that appeared in the Financial Review on 29 August 1995 said:

> *"Telecentres - touted as an aid to decentralisation and a means of bringing technology training and job skills to people in the bush - have been pretty much of a flop.*
>
> *The Federal Government put money into the concept through its Telecentres Program, but as someone said, this has just splashed dollars on the wall.*
>
> *It seemed like a good idea and an interesting social experiment to boot. But there are few success stories and those who have backed the concept are now afraid of throwing good money after bad.*
>
> *The problem seems to have been that more importance was placed on the technology than on the management and where the work would come from. And that critical element, community support, was in some instances totally absent.*

> *How many facilities are now operating under the loose term "telecentre" is not known. SkillShare offices, Open Learning centres and the like, have all lined up for telecentre funding. But once that expires many will fall back into obscurity - "*

However, had these telecentres been established in public libraries where all of the characteristics described previously would have contributed to the success and longevity of the strategy, I feel confident in saying that every one of them would still be operating today thereby facilitating ongoing access to technology for remote, rural and regional residents. Ironically, the NSW public library network has assumed this responsibility by default and is in the process of establishing an extensive technology access network known as NSW.net.

On 6th December 1995 the Keating Labor Government, during its final term of office, developed a strategy known as the Innovation Statement which pledged $11.4 million to public libraries throughout Australia to establish public internet access for all Australians. This was a very significant political decision for public libraries because it acknowledged the suitability and appropriateness of the public library network to provide an electronic access point for Australians as well as establishing a delivery mechanism for online government information. The Keating Government was voted out of office before this strategy was implemented, and the incoming Howard Government reduced the funding allocation to $2.2 million and made it competitively available through the OPAI (Online Public Access Initiative), completely diminishing the opportunity for the establishment of an Australia wide public internet access network at that point in time. Since then, many millions of dollars have been distributed by the Federal Government through the Networking the Nation strategy (using funds from the partial sale of Telstra) however to the best of my knowledge there is still no nation wide public access internet network in place - and the public library network is still ready, willing and more than able to facilitate and optimise that opportunity.

Regional Libraries in New South Wales

The public library network in NSW has long been optimised by the formation of regional library services which are particularly prevalent in rural and regional New South Wales. There are 23 regional libraries operating throughout the state, providing services to a total of 1.5 million constituents in 104 local government areas, and covering some 390,000 sq km - a significant geographical area of the state. The regional library network is one of very long standing. The advantages of the regional library structure have stood the test of time with a number of regions that are still operating successfully today having been formed over 50 years ago in the 1940's.

Like most regional organisations, regional libraries form mutual associations to take advantage of economies of scale, professional support, resource sharing, improved service outcomes, and shared infrastructure (both physical and technological). It is largely due to the regional library structure in rural, remote and regional New South Wales that branch libraries are able to remain operational in small towns, and that delivery of regular mobile library services to many outlying communities is maintained.

It is particularly interesting to observe that, in the current environment of withdrawal of many services and agencies from "the bush", including post offices, banks, medical services and government services, one agency remains constant, operational and open for business - and that's the local public library. In fact, the more services and agencies that are withdrawn from rural communities, the more the public library becomes recognised as **the** community focal point, meeting place and access facility for a broad range of purposes.

My own library Service, the Riverina Regional Library, is a joint library service between 9 local government areas in southern New South Wales, serving a population of some 102,000 residents.

Although distances between the central library at Wagga Wagga and other branch libraries are not vast (averaging 100km), some of the communities served have populations of less than 100 people. The library service has branch libraries in 12 towns throughout the Riverina as well as a mobile library which delivers library services to 24 small villages including a number of isolated communities.

In order to maximise library service provision to as many residents as possible throughout our client area, a number of innovative partnerships have been developed with agencies that may not have been seen as traditional public library partners in the past. The first joint TAFE/public library in NSW has been established at Cootamundra; a joint use school/public library operates in the ex-Snowy Mountains Scheme village of Talbingo; the local post office-come newsagency provides a library service to the residents of Ariah Park; Australia's highest town, Cabramurra, which is located in a National Park and as such does not actually "belong" to a local government area, runs a book exchange to meet the library needs of its residents; and, of course, the faithful mobile library which is not unusual in itself except that it is our second busiest service point.

It is very much the focus of the Riverina Regional Library Committee and myself as Director to promulgate all aspects of library service within our region, and to work towards the recognition of our libraries as public spaces which go far beyond what may be perceived as "traditional library business". It is not so much where or with whom libraries set up shop as it is the opportunities they bring to communities; hence our obsession (well, not quite, but almost!) with finding ways and means to infiltrate as many towns and villages as possible throughout our region with library services.

This philosophy is common amongst the New South Wales public library network, and it remains the very strong focus of local government and its libraries to provide the full suite of library services to all residents - and that means delivering services to some very isolated residents!

Tumut Shire Council, one of the 9 member councils of Riverina Regional Library, has recognised the potential of the library network in its local government area. Tumut Shire has a population of 11,100 people and provides library services to its constituents at branches in 4 towns. The political and geographical environment of the Tumut Shire necessitates this abundance of libraries, and rather than cringe at the expense associated with their operation, Council has optimised the library infrastructure. Branch libraries are utilised as transaction centres for residents to conduct council business such as payment of dog registrations and land rates. Community groups and individuals are also utilising their libraries as meeting places and display facilities; strategic partnerships have developed between libraries and groups such as the local family history group and adult education providers, reinforcing the perception of the library as a community focal point

The most recent and significant development for the Tumut Shire Council and its libraries is the establishment of the Tumut Electronic Network Centre, an initiative funded by the Networking the Nation program.

This project was initiated in 1998, and set up telecentres in libraries at Tumut, Adelong, Batlow and Talbingo with the aims of:

- raising the awareness of local communities about technology services and applications available through the telecentres
- renovating and preparing the existing libraries to house the telecentre facilities
- providing ongoing training and support for telecentre users
- implementing strategies to ensure the long term viability of the telecentres

The benefits for the communities have been:

- vastly improved access for all residents to information via the internet
- equity of access to technology for people who are disadvantaged financially, geographically or educationally
- raising the awareness of the community about new technology and its relevance to groups and individuals
- availability of training in technology applications
- facilitating the development of community information and business networks

- provision of access to distance education courses available online
- installation of the first regional satellite point-of-presence
- a joint project with the Tumut Region Development Board to develop an online business database for the region

There have also been significant gains for the library in terms of a new community perception, increased patronage and the availability of more services which I don't have time to detail today. But suffice to say that there are four branch librarians who have a lot to smile about.

Although the Tumut Electronic Network Centre has not quite met usage expectations in its first year of operation, and some other projected opportunities did not eventuate, this vital community access project will remain in place because it is situated in the existing infrastructure of the public library network and is supported by local government, unlike the 1990's telecentre initiative referred to previously.

NSW.net

The public library network in NSW in partnership with the State Library has developed a virtual private internet network for libraries, local government and their communities. This initiative was initially enabled by state and federal grant funding, and has more recently received significant endorsement from the NSW state government in the form of $8 million in funding during its current term.

NSW.net aims to provide the following infrastructure to all councils and central libraries in NSW under the first two phases of its implementation:

- permanent high-bandwidth connection to the internet for a set per annum cost
- state-wide Virtual Private Network (VPN)
- network consortium for purchasing of information and other services
- facility for members to become content providers and utilise e-commerce capability
- training program

The design goals of NSW.net are based on providing a simple, fast, scalable, secure, equitable and cost-competitive statewide networking solution.

Further funding of $4.9m is currently being sought from the NTN program to extend connectivity to "the last mile" - the remote and isolated communities in the state - through a project called Rural Link.

The emergence of NSW.net further establishes libraries throughout the state as the ideal network for the provision of a wide variety of public and private sector services at the local, state and national levels.

Conclusion

The public library network in New South Wales has emerged as a leader in bringing technology access and solutions to remote, rural and regional New South Wales. It has unparalleled infrastructure, community recognition, and accessibility which makes public libraries an obvious choice as community technology access points and online information delivery points for all levels of government.

There is still much work to be done. As suggested in the abstract, pilot programs of satellite connectivity to the remote NSW towns of Manilla and Brewarrina have begun as recently as this month; there is potential for the provision of "mobile banking" using mobile libraries which is yet to be successfully negotiated; many libraries are transacting business on behalf of their councils; in fact there are scattered examples of libraries providing innovative services to communities all over Australia.

What is not happening is the availability of a co-ordinated government funded approach which recognises and optimises the amazing networking potential of Australian public libraries. The opportunity exists for public libraries to be utilised to assist remote, rural and regional communities not only to survive, but also to develop and prosper.

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Proceedings

Resource Discovery within the Networked 'hybrid' library

Sally-Anne Leigh

Today's 'hybrid' libraries provide substantial resource functions, providing pathways for users through the maze of knowledge sources and networked information systems that are now available in the modern academic library. Libraries are becoming combined information technology and information access points with services no longer restricted to time and place. Information delivery to the desktop is the expectation rather than the hope.

This represents a substantial historical shift from traditional library information service models to something new and exciting. The field of scholarly publishing and the notion that libraries should in fact be producers and value-adders rather than simply enablers is becoming the norm. Information and network technologies are important tools in furthering continuing development of increased information access needs. A shift from traditional collection based services to a broader mix of services including networked information access is occurring.

This paper will focus on the development, adoption and integration of resource discovery, knowledge management and/or knowledge sharing interfaces such as interactive portals and the use of the libraries web presence to increase the availability and useability of information services.

Traditional barriers to the access of information sources are becoming more and more diminished, thanks largely to the nature of the Internet and the myriad of information technologies, which allow us to retrieve, store and disseminate information.[i] Resource discovery developments such as search engines, subject gateways, portals, enhanced sites, site-to-site and site to people link provide greater access to information than ever before. The "global virtual library", allows library collections in different part of the world to be accessed and shared digitally.[ii] To survive, individual libraries must "add value" to this resource-sharing network.

Libraries act as a linkage between knowledge sources and users. Too often we view libraries as an entity in themselves rather than as merely a service gateway to information. The knowledge mediation function of the library comprises three basic functions:

- Providing a window on available knowledge through a wide variety of sources within the library holdings;
- Actually providing materials to the user once they have decided exactly what they need; and
- Offering users various kinds of support related to the complex processes of knowledge mediation and acquisition.[iii]

Libraries are no longer bound by time and space in their provision of information. Users not longer depend on libraries but increasingly they depend on access to information. The differentiation between Internet and library resources from a user perspective is rapidly disappearing. The role of a "New Age" library will be very much an intermediary between end-users and commercial publishers. Dynamic documents that process information must include resource discovery standards such as metadata and links to external elements and tools.

Portals as an Access Tool

The term "portal" is relatively new and began to be used by mega-sites such as Yahoo, Excite, Netscape and many other large heavily visited sites. In its raw form it is nothing more than an entry point or a starting gate for web surfing. The term "search engine" has become inadequate to describe the breadth of the offerings of these leading Internet destinations, although search and navigation are still pivotal to people's online experiences.

In its most simplistic format, portals gather a variety of useful information resources into a unified "one-stop web shop" helping users to overcome the "information overload". Portals can be customized, a futuristic change from the traditional profiling services. A library portal can allow an individual's web experience to be more efficient and make the institution more efficient and productive as a whole.[iv]

Portals are a way of leveraging a site for communal access of information. Traffick.com's Guide to Portals[v] lists several types of portals:

- **Consumer** Portals; which offer a wide range of customisation options and functionality including: internet search and navigation, email, customised news, calendars and contact managers, bookmark managers to save favourite web sites, real-time chat, intranet functionality and much more;
- **Vertical** (Vortal) or Niche Portals; category based web sites that are popular and economically significant, "subject gateways" are a type of vertical portal;
- Demographically-focussed portals which cater to specific ethnic group, age groups, alternative lifestyles and other groups are being called **Affinity** Portals;
- **Horizontal** Portals are general interest portals covering a wide range of topics and features such as Yahoo and Lycos;
- Enterprise Resource Portals (**ERP**), Enterprise Information Portals (**EIP**) or **Corporate** Portals or once called the "extranet"; and
- **B2B** or Industry Portals are those in the corporate sector that can act as real engines for the new economy, particularly those who advocate e-commerce.

For libraries as with other organisations, simply applying these technologies does not create an attitudinal system of knowledge sharing. Information is as much about access as about quality. Information discovery, information organisational and information sharing is crucial for the sustainability of information services within libraries.

Information portals or format-specific portals, a term more frequently used in Australia have three fundamental purposes: to provide convenient and effective access to information resources through a single gateway; describe resources according to agreed-upon standards after selection for quality and subject content; and identifying information resources to agreed-upon content guidelines.[vi] Information portals help collect, filter and deliver data in real-time. Information portals are the next generation intranet, a point of aggregation for fragmented data and documentation posted on the Internet.[vii]

However, the current trend in the supply of electronic information particularly those favouring vendor-aggregated content providing "MyPortal" services and technologies do not necessarily suit the library user. Library users do not know nor should be expected to know which title has been acquired from which vendor. Rather they need to be provided with a strategy to "implement site-wide subject searching, or browsing, that would result in a single page displaying links to all types of electronic information on a given topic drawn from many places on the Web site".[viii] Good examples of Library wide portals include: University of Washington's MyGateway http://www.lib.washington.edu, University of Melbourne's Buddy http://xena.lib.unimelb.edu.au/bud/dir/budhome.html, and University of Arizona's SABIO http://www.library.arizona.edu.

Knowledge Management

Knowledge management has recently been used to represent a myriad of concepts in recent years. As a standalone buzzword, it is however almost meaningless. There has been a huge amount of information published about this topic in recent years but not necessarily in relation to libraries. It has largely been applied to organisational change and innovation. Libraries are however, increasingly becoming aware of the relevant of this field of study. Nomenclatures are changing. Chief Librarians are becoming "chief knowledge officers", librarians are becoming "knowledge workers". There are some broad trends that are currently playing a significant role in the current knowledge economy:

- The globalisation of the economy which is putting terrific pressure on organisations for increased adaptability, innovation and process speed;
- The awareness of the value of specialised knowledge, as embedded in organisational processes and routines; and
- Cheap network computing which is at last giving us a tool to work with each other.[ix]

The difference between information and mis-information is central to the work of librarians. Libraries are still mainly called libraries, but in this modern age they should be referred to as "Information Centers". People often use libraries simply to find out what different people have said on a question. Information is a valuable commodity but it has to be believed, be from a valid source and be reliable. Library catalogs often reveal little about the content of a libraries collection, a breadth of sources must be investigated. Librarians often see their's as a traditional role, to provide information about a variety of sources, describe and make them accessible. The reality of the library system is to provide their clients with the information that they find subjectively satisfactory. The major role of the "knowledge enabled" library should be to supplement the material provided rather than simply provide access to it.[x] Technology provides a way of increasing the breadth and scope of information, other than the traditional catalog system, library web sites and the development of subject gateway's and portals which can provide a way forward.

From Static Web Site to Portal

More than ever, the Library web site is the gateway to the breadth of information that a library has to offer. Web Sites now play a central role in meeting the library's mission of delivering information and services, a role that it did not play a number of years ago. Libraries must understand that web managers and electronic resource positions are no longer a one-person job. Thus, whether or not they are conscious of this evolving dynamic, libraries are taking steps to address the substantial technical and organisational challenges posed by the second-generation web.[xi] Web sites are continually evolving and the library web presence is even larger within the new age context. The Library's web site is the gateway and the point of integration for library resources and services for both local access and remote users. Unless catalogs include a myriad of electronic, both subscribed and non-subscribed resources they risk being marginalised.

User expectations are becoming increasingly higher, they expect value added services, easy to use interfaces and want to browse the catalog using the same tools and techniques as they use to manage their other information investigations. Users want tailored information, suited to their needs at that specific time and place.

Library Web sites contain a wide variety of information; local information, locally hosted databases, internet resources and a wide range of library holdings.

Every query to a search engine or form submission uses CGI (common gateway interface) scripting typically in PERL, PHP or TCL technologies behind the scenes. "To move forward, libraries must stop thinking of their web sites as collections of HTML pages and view them as dynamic resources for information and services that patrons will use in highly individualised ways".[xii] Dynamic technologies are required to create "on-the-fly"/real-time access using push/pull technologies that allow for data to be manipulated into the pages as they are delivered. The server-side include (SSI) feature of Web servers makes this possible. Vendor specific application server software delivers core functionality, which generally requires substantial modifications.

Decisions need to be made as to whether there is sufficient internal expertise or whether development has to be outsourced. Once the site is established how is it directed, maintained and refreshed is a resource intensive question. By using off-the-shelf tools or licensing enterprise portals, institutions will be able to share technologies by making open source code available.

A good portal or gateway should provide seamless access for non-authenticated users until restricted information is requested and then when it is, the system prompts the user for a username and password. Unlike internet and intranet sites, most portals are proprietary providing application programming interfaces (API's). Underlying technologies such as Web browsers, Java and email solutions are examples of open standard solutions that should be developed and/or integrated.[xiii] A good portal should be able to work with the existing Web servers. By using customised HTML tags and Java taglets, Html developers can add not only security but also dynamically generated content.

The Portal Development Program at the Australian National University for Scholarly Information

A portal development program[xiv] has been established within the Information Division at the Australian National University (ANU), as a three-year staged program to facilitate improved access to scholarly information. By providing timely access to electronic information delivered to the desktop rather than the traditional print based materials, the scholarly information paradigm will change dramatically. Information access will be provided through generic and specific portals and supported by local and distributed physical facilities and training programs.

Web of Science will provide a major information source and gateway. Subject based portals/gateways to the web will be developed within the following categories: Science (Physics, Maths, Chemistry, Engineering/IT and BioMed), Humanities and Social Sciences Portal - General, Music and Art Portal, Economics and Business Management Portal (Social Sciences - Asia Pacific) and Law. These portals will be developed to provide easy access and to build sustainability of access to electronic information in the process.

The program has been designed to facilitate a change to scholarly communication with an emphasis on access and usage rather than ownership. The program will be a change agent for user behaviour. As users already have an expectation of 24x7 service and information access delivery to the desktop, libraries must respond to the challenge. There will be a move from the provision of traditional print based resources to the provision of electronic resources. Bridging funding has been allocated to facilitate this change mechanism. The implementation process will be informed by user needs and a major facet of the program is the determination of the value and priority placed on particular sources of scholarly information by the academic community.

A Portals Implementation Team was established to manage and co-ordinate this change. The team consisted of a Project Manager, a Portal Development Co-ordinator, a Web Developer, a User Interface Co-ordinator, Technical Support, and an Electronic Services Co-ordinator.

By evaluating what other institutions are doing and/or what is available in the marketplace a decision is being made whether to develop an in-house solution or to utilise and customise and existing solutions. By far the most common type of portals developed by universities appears to be campus-wide solutions rather than those simply focussing on access to library resources. There are quite a number of examples including Monash University, University of Minnesota, California Institute of Technology, and the University of Michigan who as part of their campus-wide portal have integrated their library resources into a single database.

Good examples of university wide portals can be found at: Monash University http://my.monash.edu.au, University of Minnesota http://onestop.umn.edu, California Institute of Technology http://my.caltech.edu/portals, University of Michigan http://www.umich.edu/gateway.html and the UCLA http://my.ucla.edu.

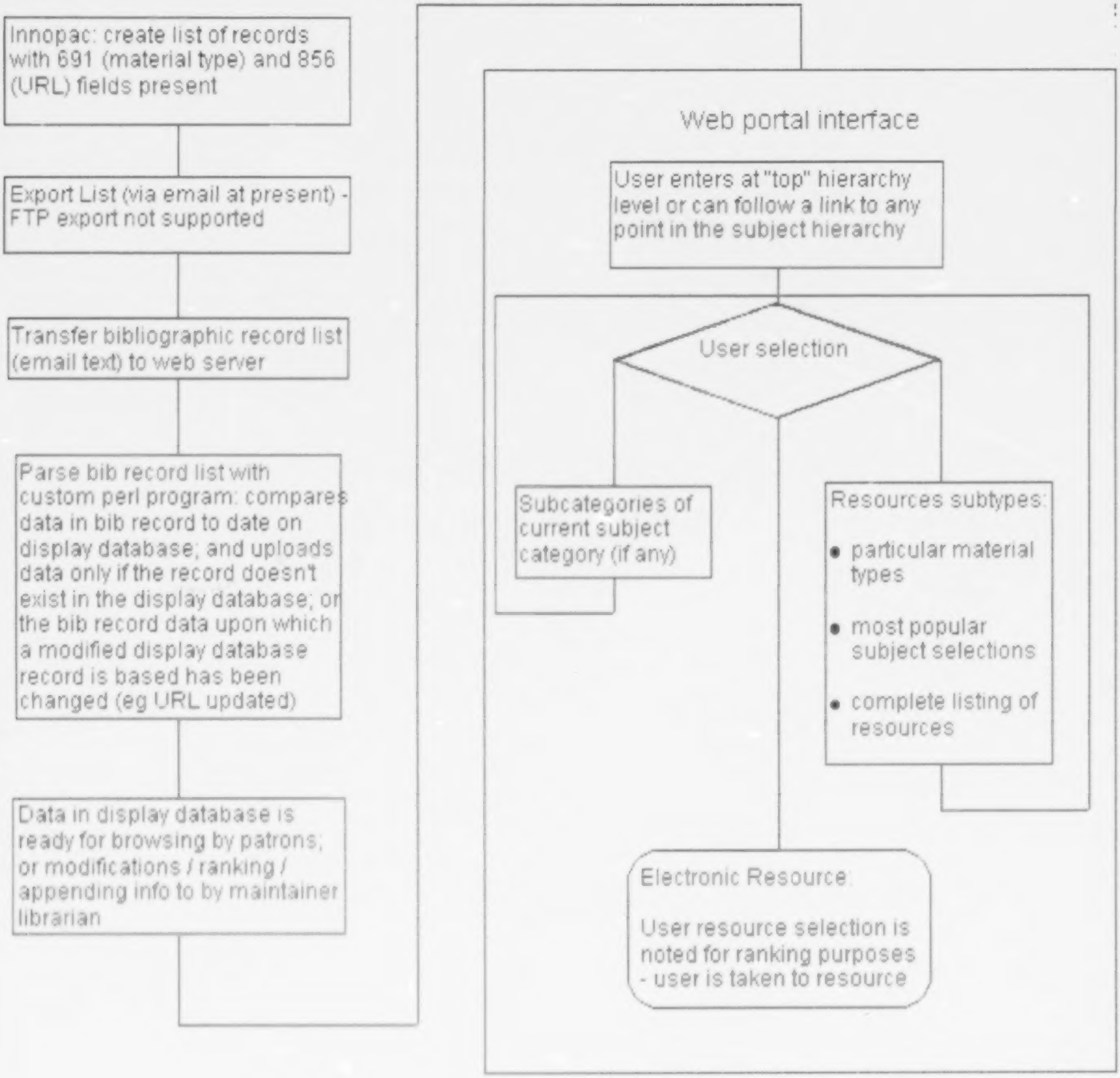
Good examples of Library wide portals include:

- University of Washington - "My Gateway"

This site is highly customisable and is developed in such a way that allows users to group resources according to their own usage patterns. It has an easy to use interface, which allows for an updating mechanism that alerts users to resources that have been added to the database since the user's last login and the ability to immediately add resources to the user's gateway profile as they encounter them in their searching. The data is primarily organised by hierarchical by subject but with the option to isolate items by format (e-journals, websites, catalogs, etc.

- University of Melbourne - "Buddy"
  Buddy is an integrated, subject-based database of the University of Melbourne's library resources. The system that has been created is not an interactive portal per se as it does not allow users to customise the presentation of the information. However, developing an integrated interface and underlying database incorporating all types of library resources (e-journals, databases, websites), is the first step in the development of a portal.
- University of Arizona - "SABIO"
  The Arizona library does not have a customisable portal per se but does have a "multi-search" option, which allows searches for "books and articles in different catalogs and indexes at the same time", the beginning of a portal.

One option for ANU has been to develop its own product based sourcing data from a wide range of sources including the catalogue, subject specific web pages and electronic database services. The following is a schematic representation of the way the database structure may develop.[xv]


Innopac: create list of records with 691 (material type) and 856 (URL) fields present
Export List (via email at present) - FTP export not supported
Transfer bibliographic record list (email text) to web server
Parse bib record list with custom perl program: compares data in bib record to date on display database; and uploads data only if the record doesn't exist in the display database; or the bib record data upon which a modified display database record is based has been changed (eg URL updated)
Data in display database is ready for browsing by patrons; or modifications / ranking / appending info to by maintainer librarian
Web portal interface
User enters at "top" hierarchy level or can follow a link to any point in the subject hierarchy
User selection
Subcategories of current subject category (if any)
Resources subtypes:
particular material types
most popular subject selections
complete listing of resources
Electronic Resource:
User resource selection is noted for ranking purposes - user is taken to resource

Future Challenges

Universities as well as libraries must begin to think more strategically about their use of the web and interactive portals within. The Library must now provide access and service to users who do not ever come to campus, it must create a brand image that is easily recognisable not only part of the institution as a whole but as a recognisable library service point. A questions that needs to be asked is whether administrative costs be reduced by building more interactive modes of access to data, information and services or whether the portals is simply a value-added service.[xvi]

Interactive portals and a strong Library web presence are vital to strengthen the role of the Library as a point for resource discovery. While the value of a library as a physical space is now questionable, the value of the "hybrid" library as a value added provider of information is unquestionable. By realising that the development, adoption and integration of knowledge through a sharing interface such an interactive portal and a strong web presence, libraries can increase the availability and usability of their services and continue to increase their value and viability in an information rich but time poor society.

Footnotes

i Miller, R.G. and Zhou, P.X., "Global Resource Sharing: A Gateway Model", in *The Journal of Academic Librarianship*, Volume 25, Number 4, pages 281-287

ii ibid

iii MacKenzie Owen, J.S. and Wiercx, A., (1996), (NBBI), *Knowledge Models for Networked Library Services, Final Report* Version 1.0, January, Project Bureau for the Information management in the Netherlands (Contract PROBLIB/KMS 10119)

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ix Ruggles-III, R., (1997) *Knowledge Management Tools*, Butterworth-Heinemann, Boston

x Antelman, K., (1999), "Getting Out of the HTML Business: the Database Driven Web Site Solution', *Information Technology and Libraries*, December, pp. 176-181

xi ibid, p. 177

xii Connolly, C., (2000), "From Static Web Site to Portal", *Educause Quarterly*, Number 2, pp. 39-43

xiii Information on the Portal Development Program has been taken from an internal ANU document entitled: *Electronic Information Access and Integrated Portal Approach - Changing the Scholarly Model*

xiv The schematic was produced by the ANU Library's web developer Grant Ozolins

xv Looney, M., and Lyman., "Portals in Higher Education", *Educause*, July/August pp. 29-36

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Proceedings

The Last Book: The Delivery of Future Content

Edward Lim

1. THE LAST BOOK

Many extravagant predictions have been made about the future of the printed book, with most predicting its eventual demise and replacement by electronic versions available anywhere and any time on the Internet. A few quotations will give a flavour of the current thinking among some industry players:

We are at "ground zero of the most earth-shaking, tradition-breaking revolution in publishing in more than 500 years, a techtonic shift in the way books are made, bought, sold and ultimately, perhaps, rendered obsolete." (Weeks, 2000)

> Mark Bernstein of Eastgate Systems, a proponent of experimental story telling using hypertext: "The future of literature lies on the screen ."(Quoted by Weeks, 2000).
>
> Diane Grego, also of Eastgate System: "Books will become objects of nostalgia."(Quoted by Weeks, 2000).
>
> Chuck Geschke, co-founder and chai rman of Adobe Systems: "Think about it as an ecosystem; the book of the future isn't going to look anything like the static books of today." (Quoted by Lind, 2000)
>
> Edgar Bronfman Jr., the head of Universal, the world's biggest music company, predicted in a speech in May that soon "a few clicks of your mouse will make it possible for you to summon every book ever written in any language, every movie ever made, every television show ever produced, and every piece of music ever recorded." (Mann, 2000)

There is no question that the rapid developments in the global information infrastructure have been responsible for these claims. Among the factors driving these beliefs, the following are significant:

- An increasing volume of material being published in digital format;
- the superior characteristics of digital publications, especially in providing a rich multimedia environment with hypertext links and interactivity; and
- the development of technologies which will allow the digital book to become as portable as the traditional printed book.

1.1. Increasing Volume of Digitised Material

There are daily reports in the press of more and more publishers moving their publications into the digital environment. For example, scholarly electronic journals are increasing in number by leaps and bounds. Many journal publishers are starting web-based publishing programs. In some cases publishers are making all or most of their journals available on the web. Many scholarly e-journals began life as print, but are now being rapidly converted into digital formats. Publishers active in this field include the traditional large journal publishers like Academic Press, Elsevier, Springer and Wiley and scholarly societies like the American Association for the Advancement of Science, American Astronomical Society, American Chemical Society, Institution of Electrical and Electronic Engineers and the Institute of Physics. Universities and their presses are also involved, e.g. JSTOR, HireWire Press and Project Muse. In addition, many libraries and organisations are digitising their holdings of images, videos and movies, as well as collections of out of copyright works.

There are now thousands of e-journals available via the Web whereas in the past few years they only numbered in their tens or hundreds. *NewJour*, (http://gort.ucsd.edu:80/newjour/) the web site for new electronic journals and newsletters available on the Internet, lists some 9229 titles as at August 2000 (up from 2500 in 1998). Many are not peer reviewed and the total number of journals that are only available in electronic format still constitutes a very small proportion of the total number of journals published (less than 5% according to some estimates).

In the monograph area, many commercial publishers have begun to convert their publishing output to digital form. Notable examples are Random House, one of the largest book publishers in the world, which is digitising its entire publishing output of 20,000 titles, Simon & Schuster and McGraw-Hill.

There are now a number of commercial sites that provide access to electronic books for a fee. An important enterprise is the NetLibrary (http://www.netlibrary.com), which has entered into partnership with a large number of major publishers, including Cambridge University Press and Yale University Press, to make available more than 18,000 titles in digital form. Another large initiative is being launched by Questia (http://www.questia.com) which has secured US$130 million from some large investors to digitise and provide online access to "the full text of hundreds of thousands of books, journals and periodicals, as well as tools to easily use this information." Other smaller companies like WizeUp.com and Versaware.com offer materials for college students in a digital format with advanced features such as audio and video which cost the same or less than traditional textbooks.

1.2. The Four "B's" Test

It has frequently been said that the printed book will never be replaced by an electronic book until the digital book meets the four "B's" test - that is the capability to be used in the bedroom, bathroom, bus and beach. This is the test of portability, as most access is currently managed via the desktop computer. However, an increasing number of technologies are now making it feasible in the next few years for the portability test to be met.

There are a numbers of devices that have been or are being developed which will make ebooks easier to be held, carried around and read. Handheld readers like the Softbook reader (http://www.softbook.com) and the Rocket eBook (http://www.rocket-ebook.com) would make it possible for digital books to be read like printed books. The Rocket eBook, for example, simulates many of the features of the printed book - page turning, and the ability to make margin notes, underline special passages and bookmark pages. In addition, of course, these eBook readers allow the contents to be searched. Booksellers like Barnes and Noble (http://ebooks.barnesandnoble.com/index.asp/ now sell electronic copies of books that can be downloaded to eBook readers, as well as viewed on desktop computers. Unfortunately, however, because of incompatible standards, an ebook designed for the Rocket eBook cannot be read on the SoftBook device, or on a desktop PC, and different software must be used to view ebooks on different systems.

Developments in handheld devices like PDAs (Personal Digital Assistants) and mobile phones also provide promise of delivery of information to these portable devices wherever the user is located. Currently, two standards are competing for market share. The Wireless Applications Protocol (WAP) is being developed mainly in Europe and the USA as the Internet standard for wireless devices. The protocols are optimised for the narrow bandwidth and limited memory and CPU usage of handheld devices. In Japan and East Asia, another protocol for mobile phones has been developed by DoCoMo, Japan's leading cellular phone operator. Launched in 1999, the I-Mode (for Information Mode) is a mobile phone service that offers continuous Internet access using voice and packet communication protocols and networks. Users do not pay for this continuous access unless they download information from specially formatted websites which have been designed to fit into the screen of the mobile phone.

Currently, the barriers to greater usage of these devices are the limited number of ebook titles available, the relatively poor screen resolution and high price. The number of ebook titles is increasing, and there are now several thousand available. The high price will obviously come down with greater usage and improvements in the technology.

The poor resolution of screens is a more difficult problem to resolve. A lot of research is going on in this area, and a couple of developments offer some promise for the future.

The Microsoft Reader software designed for reading ebooks on PCs and laptops claims to improve screen resolution considerably, and is available free of charge for purchasers of ebooks from Barnes and Noble.

Another development is digital ink, or to use its commercial product name, E-Ink (http://www.eink.com). The "ink"itself is a liquid which can be printed on any surface. The ink can be printed onto very thin plastic film and laminated to a layer of electronic circuitry. Thus the display panel can be no thicker than a sheet of cardboard. When an electric charge is applied, a pattern of pixels is formed to display an image or letter. The information produced is dynamic, and can be changed via satellite or other wireless transmissions. This means that the user can constantly receive updated information on the E-ink panel. This E-ink technology can be used for a number of applications, including handheld devices, outdoor billboards and electronic books. E-ink has many superior features. An electronic ink display has the high resolution qualities of ink on paper. It can be printed on almost any surface, and will permit prolonged battery life because it consumes very little power. However, the product is still a few years away from universal use, and has so far only been targeted at the retail market for sign displays.

A similar product is being developed by Xerox PARC which the company calls electronic reusable paper. This display technology called Gyricon, has many of the properties of paper, except that it is "electrically writeable and erasable." (http://www.parc.xerox.com/dhl/projects/gyricon/) The display also relies on an electric charge to create images such as text and pictures.

While these technologies are still some years away from being widely marketed, they hold the promise of being able to produce screens with the resolution of print on paper. When that happens, the great barrier to popular acceptance of ebooks may disappear.

2. REPORTS OF MY DEATH ARE GREATLY EXAGGERATED (Mark Twain, 1897)

"The death of print and public libraries has been suggested several times in the past, when motion pictures, radio, and television became popular. Then as now, new media built their own markets - enhancements not replacements." (Crawford & Gorman (1995, p.34).

The authors point out that there are many advantages of print. The first is obviously that reading from the screen is still troublesome, and no electronic medium can yet compare with ink on paper for readability (although the technological developments described above may change this in the next few years). The linearity of text is not necessarily a disadvantage as it is good for "building understanding and enlightenment and for story telling. Most nonreference books would not benefit from hypertext." (ibid,p.35). It is generally accepted that electronic versions of reference books like encyclopaedias and dictionaries have distinct advantages over their printed counterparts.

"Books that are both public and intimate - the kind that are read in the bathroom or on the beach, in the subway or on the sofa - those books will not all go to modem. Good books are not the stuff of fly-by-night technology. They fit our hands, our brains and bodies, and we'll continue to insist that they do." (Allan Kornblum. Quoted in Crawford & Gorman, 1995, p.19).

"We shall not understand what a book is, and why a book has the value many persons have - Words on a screen have visual qualities, to be sure, and these darkly limn their shape, but they have no materiality, they are only shadows, and when the light shifts, they'll be gone. Off the screen, they do not exist as words." (William H. Gass, Director of the International Writers Centre at Washington State University, St Louis, "In Defense of the Book", Quoted by Weeks, 2000)

Brown and Duguid (2000) have pointed out that paper documents have proved more resistant to extinction than any one has expected. This is largely because the document is more than an "information carrier". Documents also have the following "social" characteristics:

- Documents give validity (or warrant) to the information. People determine the reliability or otherwise of the information on the basis of a number of factors, e.g. the author or publisher of the document.
- Documents have a "social role". Long before the development of "virtual communities" on the Net, scholars like Anselm Strauss, a sociologist, and Benedict Anderson, a political scientist, studied communities forming around documents (including books and newspapers). These were "textual communities" whose shared interest in texts gave rise to the "notion of a discipline, a profession, or an interest group." (Brown and Druid, 2000, p.190)

Borgman (2000, p.x) in her recent book is critical of the hype surrounding the emerging global information infrastructure. She points out that "History shows that, time and again, new technologies have supplemented rather than supplanted, old ways of doing things." She also feels that there is too much focus on technology and not enough attention is paid to human behaviour. In other words, the technology may be available, but will people use it?

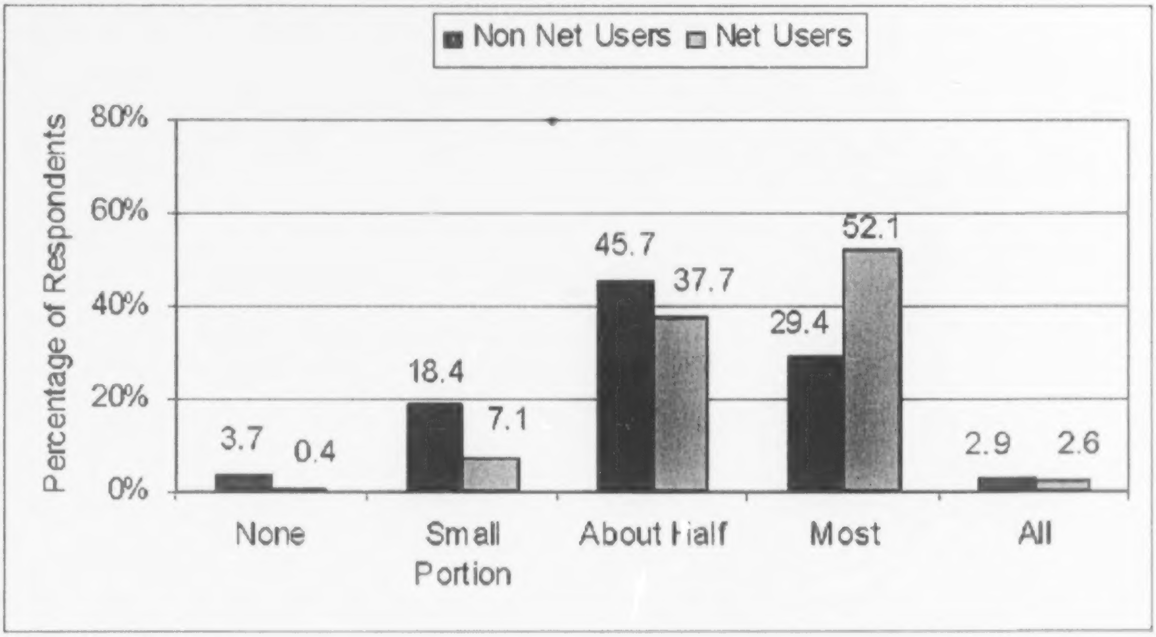
There is considerable evidence to support the truism that printed books will not disappear forever. For one thing, there are the legacy collections in libraries comprising several hundred million books. Some writers have argued that these could be selectively digitised over time. But they have not reckoned with the cost and the time required to undertake this mammoth task. For example, Crawford and Gorman (1995) estimate that based on the Library of Congress's experience, LC can convert around 1,000,000 images (or pages) each year. This is equivalent to 5,000 200-page books. Based on the size of its current collection, even if LC were to stop acquiring books today, it would have converted only 5% of its collection by the year 2216.

There is also statistical evidence to support the continued good health of print. According to the *Unesco Statistical Yearbook, 1999*, more than one million print titles are published annually. The *Yearbook* also records that the consumption of printing and writing paper worldwide between 1970 and 1997, rose from 7.2 kilograms per head in 1970 to 15.1 kilograms per head in 1997. Consumption of newsprint also rose from 21 million tons in 1970 to 35 million tons in 1997. Again, book sales in the USA, as reported by the American Booksellers Association, increased from US$12.688 billion in 1997 to US13.179 billion in 1998.

A recent "UCLA Internet report - Surveying the Digital Future", issued by UCLA's Center for Communications Policy, shows that people still rate books as important sources of information. To a question "How important are the following as sources of information to you?" 73.1% of Internet users and 67.4% of non-Internet users rated books as being important or extremely important. (See Fig below)

How much of the information on the Internet do you think is reliable and accurate?

Non Net Users versus Net Users*



* Respondents 16 and over

Source The UCLA Internet Report -- Surveying the Digital Future"
UCLA Center for Communication Policy

3. THE LIBRARY'S RESPONSE

From a library perspective, it is clear that for the foreseeable future, print will coexist with electronic publications, with each being used for purposes which best reflect their respective strengths. In managing both digital and print collections, librarians will continue to rely on their professional skills to select the materials which meet the needs of their users, and to make decisions such as when to substitute digital for print, the balance between ownership and access, the advantages of local hosting of databases versus hosting by a third party or vendor, and how to archive and preserve digital and analogue materials. A key decision will be the integration of access to analogue and digital materials so that users can operate within a seamless information space. In this environment, users will be provided with a common interface to discover the resources (both analogue and digital) that they want, and to have these delivered to them, wherever they are located. The success of this strategy will be dependent on the acceptability of this technology and, in turn, this will be dependent on how easy it is to use, how affordable it will be and whether it meets the perceived needs of users.

4. COMMON USER INTERFACE

The development of a common user interface is critical to the delivery of content in the future. In the traditional print based library, the online catalogue (OPAC) provides a common interface to all of the library's locally held analogue resources. But with the increasing move towards digital libraries, the issue of a common user interface becomes more complex. This is partly because the range of information resources available to users is more disparate, and comprises analogue as well as digital resources. The digital resources themselves are of different types, and include full text databases, bibliographic or citation databases, multimedia electronic documents, ebooks and electronic journals. They have different search interfaces, and are more distributed. This complexity is exacerbated by differences in

- proprietary systems
- operating systems (e.g. Windows, Unix)
- local area networks (e.g. Unix, Windows NT, Novell)
- wide area networks
- database structures
- search and retrieval languages
- standards and protocols

As a result, users frequently encounter problems when they search for different information resources using a variety of query languages, different user interfaces, different protocols and different computer platforms.

5. PORTAL TECHNOLOGY

The current trend is to leverage the use of e-commerce technologies for library purposes. As more and more users begin to demand remote access to the resources of libraries, it is incumbent upon libraries to provide user-friendly interfaces for users to gain access seamlessly to all the information resources and services of the library. In this connection, libraries should coopt many of the e-commerce technologies and methodologies developed by online retailers to improve the effectiveness of their services to their users.

One major technology used by e-retailers is the "portal". The portal has many different interpretations, but its strength lies in its ability to integrate more fully the information landscape within which users operate.

The key properties of the library portal include the following:

- It should provide access to all the information resources and services of the library through a single user interface
- It should permit users to personalise or customise their access to information using push and pull technologies, so that when users log on, they only see those resources that are relevant to their field of interest (pull), and they have access to an alerting service (push) which keeps them up to date on the availability of new resources. The latter is a kind of SDI (Selective Dissemination of Information) service, except that the users develop their own interest profiles rather than rely on the librarian.
- It should permit users to communicate with librarians through the availability of email and sometimes chat facilities.
- It should provide facilities for secure payments for those value added services for which there is a charge.
- It should be available on a 24x7 basis.

6. PORTAL ARCHITECTURE

The architecture of the library portal comprises four layers, as follows:

- The Presentation Layer
- The Applications Layer
- The Protocols Layer
- The Contents Layer

6.1. The Presentation Layer

The presentation layer would be the interface that the user sees. It would be the interface with which the user interacts with the resources provided by the Library. The presentation layer could be a proprietary system using the Microsoft Windows interface but it is usually Web-based.

In the search for an interface that will enable users to navigate an increasing complex information environment, many libraries and publishers are increasingly relying on the World Wide Web's graphical interface. It is therefore not surprising that the portal makes use of web-based technologies in its presentation layer.

6.2. The Applications Layer

The applications layer comprises a range of different types of software applications. These applications usually includes:

- An authentication system
- A search engine that can undertake distributed searching of a number of targets including Z39.50 compliant databases and web sites on the Internet. When users seek information, they are usually not concerned as to whether they are searching a Z39.50 compliant database, an ODBC database, or a web based one using HTTP protocols. The search engine must therefore have the capability of undertaking all these searches using different protocols transparently.
- Secure payments functionality
- Rights management
- A requesting module for analogue materials
- Customisation and personalisation features. This is a key portal technology. Access to information resources should be driven by user needs rather than institutional imperatives. Thus, the traditional library policy of one-size-fits-all can be abandoned. These functionalities allow the user to create a "My.Portal" or "My.Library" page, and to alway access these personalised and customised pages whenever they log on, rather than the more generic pages usually provided on library web sites.
- Chat, Email and Videoconferencing facilities, if appropriate

6.3. The Protocols Layer

Protocols are important to establish a standard communications method between the client side of the applications and the server side. The number of protocols underpinning the Internet and the Web is legion. However, the relevant ones will be Z39.50, HTTP and ODBC, as well as the Interlibrary Loan Protocol.

6.4. The Contents Layer

The contents layer includes all the "information resources" that a user or client wishes to access. These would include the "analogue books", citation or bibliographic databases, full text publications like electronic journals and electronic books, subject gateways, metadata repositories, and web sites.

6.5. The Portal Model

The diagram below provides a general concept of the library portal. Because it is a two-dimensional model, not all the complexities of the model can be illustrated.

In this model, the portal also incorporates other types of software which will enhance user access to the resources and services provided by the library. This is not a feature that is common in the use of the portal in the commercial environment. This will permit it to provide a single user-interface as well as integrate the delivery of analogue and digital information resources.

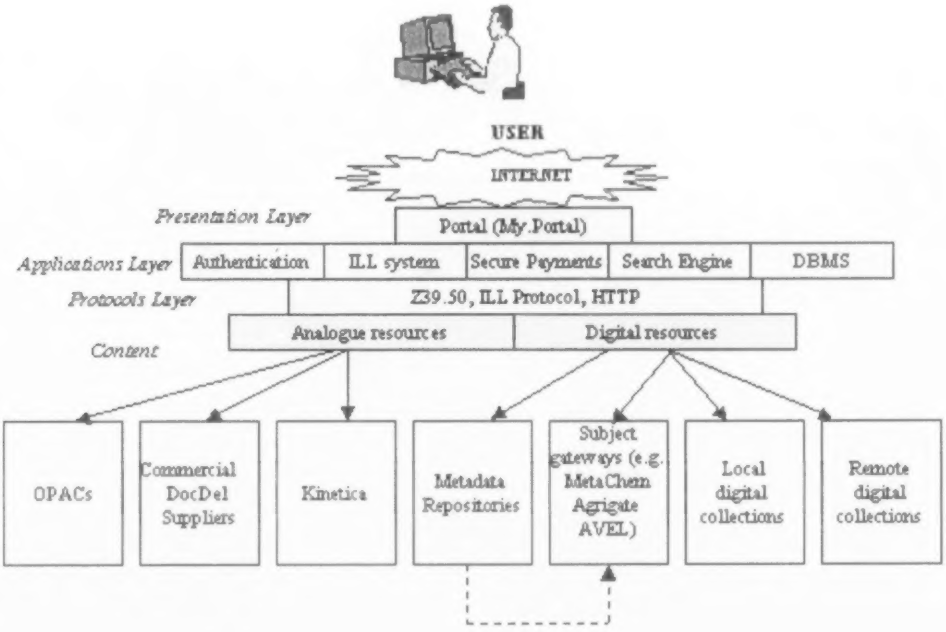
For example, if we were to integrate a piece of software such as LIDDAS (Local Interlending and Document Delivery Administration System) it will be possible for end users to have unmediated access to the resources not only of their home library, but also those of other collaborating. It would thus be possible for users, once authenticated, to use the portal to search the OPACs of participating libraries, and automatically generate interlibrary loan requests from those libraries, or they can request articles from commercial document suppliers (if permitted to do so by their host institutions).

It will also be possible to integrate software such as OCLC's SiteSearch software (URL:http://www.oclc.org/oclc/menu/site.htm) in the portal so that users can undertake a distributed search of a range of databases by subject using a single set of search commands. With software such as this, it will be possible to integrate all of the library's electronic resources, search and browse multiple databases simultaneously, and provide access to unique local digital objects, including sound and video files. At the same time, users can move seamlessly to subject gateways like MetaChem (URL:http://metachem.ch.adfa.edu.au/) which is a catalogue of chemistry resources, Agrigate, Agriculture Information Gateway for Australian Researchers (URL:http://www.agrigate.edu.au/) and AVEL, Australian Virtual Engineering Library (URL: http://www.avel.edu.au/AVEL), and also retrieve information from commercial citation or full text databases. Theoretically, the portal can provide facilities for cross browsing and cross searching of subject gateways - in the latter case via a metadata repository such as the OCLC's Cooperative Online Resource Catalog (URL:http://www.oclc.org/oclc/corc/index.htm)

In summary, via the library portal users can

- search multiple Z39.50 or ODBC compliant databases and web sites simultaneously;
- search the Library's OPAC or the OPACs of other libraries, and generate an unmediated request for a book to be delivered to their home or office;
- access contents page information and generate unmediated document delivery requests to be delivered to them electronically;
- access full text books, journals or articles via the OPAC or from citation databases;
- communicate with library staff globally, perhaps on a 24-hour basis, using email, chat or desktop videoconferencing facilities. In other words, while the portal will permit the user to customise and personalise their access to information resources, it also provides them with the human face in the virtual environment;
- obtain their information literacy skills virtually; and
- pay for access to those resources and services for which there is a charge.

PORTAL ARCHITECTURE


USER
INTERNET
Presentation Layer
Portal (My.Portal)
Applications Layer
Authentication
ILL system
Secure Payments
Search Engine
DBMS
Protocols Layer
Z39.50, ILL Protocol, HTTP
Content
Analogue resources
Digital resources
OPACs
Commercial DocDel Suppliers
Kinetica
Metadata Repositories
Subject gateways (e.g. MetaChem Agrigate AVEL)
Local digital collections
Remote digital collections

7. CONCLUSION

The future of content is clear. In the next five to ten years, it will comprise a mix of analogue and digital resources. Some of these resources will be available from the desktop, and others via portable handheld devices like PDA's, eBooks and mobile phones. The way to manage this mix of analogue and digital resources is to use the e-commerce paradigm of online retailers, particularly the portal.

Using the portal, users will not be required to go to a physical library, unless they choose to do so, to get access to an analogue book. All they need to do is to generate a request via the library portal, and the book will be delivered to them either by post or in digital form via the Web or as an email attachment. They may be required to pay a fee for this service, with payment being made via the library portal. This payment could be in the form of "virtual" cash made available to them by their home institution. Via the portal also, users can launch a single search query without having to worry whether the information they are seeking can be found in an online catalogue, a citation database, a full text publication, or a web site. Via the portal, they will be able to communicate with librarians to obtain help.

This model of delivery assumes that libraries will still be needed as the intermediary between the user and the world's recorded knowledge. Would this continue to be true? With the availability of computer networks would users need to rely on libraries to provide them with access to the information that they need? As Borgman (2000, p.207) has pointed out:

> "Computer networks offer a wealth of new opportunities for providing access to information, so much so that the continuing need for libraries is being questioned. The real question is not whether libraries are needed, but how best to provide access to information in a networked world and how best to support the marketplace for ideas."

The power of electronic communications will cause a major structural change in the distribution of goods and services. We have all heard of the success stories of many e-commerce operations in the USA, and these are also some successful operations in Australia. There is now a belief that the traditional bricks and mortar retailers will eventually succumb to the nimble e-commerce merchants of the Web. We should not be therefore be surprised if libraries will also be affected.

The Bulletin in its January 18, 2000 issue speaks of a new generation of users, whom they call the e-generation. Individuals in this generation possess several characteristics that we should be aware of. They have a high level of computer literacy, are time poor and are constantly looking for convenience. They want to bridge geographical separation and look to technology to do it. They want to do their everyday transactions using their own resources at a time that suits them. This is the generation that is attracted by the flexibility of flexible learning, this is the generation that has a very short attention span, this is the generation that wants information instantly, and this is the generation that will determine the future of libraries. However, with the correct delivery strategies, it is unlikely that libraries will be faced with the horrifying prospect of "the last book" and their own eventual demise.

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Proceedings

Imagination's Stronghold

Sophie Masson

The first library I remember was my father's, in our house deep in the green, wooded countryside of south-western France. A great collector of books old and new, many on esoteric or obscure subjects, he had had a room set aside from the beginning in the cavernous old place he and my mother had bought when it was not much more than a haunted ruin, for just this purpose. As the house took shape again, the golden-lit flesh reknitting over its beautiful stone bones, this room became a hallowed place, a place of light and shadows, cool in summer, warm in winter. Because my father is a romantic from way back, it had a fireplace and a large winged chair beside it, a desk made of fragrant Indonesian wood, quills and silver inkstand and leather-bound blotter at the ready, for when note-taking mania took hold of you; blue toile de Jouy curtains featuring scenes of 18th century bucolic life, a Persian carpet decorated with longtailed birds alighting in marvellous trees; and of course, books. Books in large wide open shelves of beechwood, built specially for the purpose by a local artisan with an accent so thick it sounded like he was speaking through a mouthful of the local fouasse cake; in antique bookcases with doors that were like fretted screens, so that the books behind them looked as if they were in a kind of beautiful prison; books behind glass and in sandalwood chests. It was a place no child was ever allowed in on their own; but sometimes Papa would take you in there, sit you on his knee and read from some old collection of Perrault's stories, or the fables of Jean de la Fontaine, illustrated by Gustave Dore. Other times, he would take down the huge volume of reproductions of Hieronymus Bosch's art, and point out to his quaking offspring the hellish consequences of misbehaving, of losing your footing on the ladder of holiness, or else, driven by another mood, pull out from the sandalwood chests bound copies of 19th century magazines and read out ancient faits divers, or human interest stories that seemed, strangely enough, to pop up again from time to time, almost unchanged, in the local newspapers.

Later, as we got older, we were allowed little by little to enter the library on our own, but no book was ever to leave it. You had to read the books in Papa's library in that place only; sitting in the winged chair, or at the desk. And that seemed such an amazing privilege, such a wondrous thing. Of course, we children had our own 'library' of books elsewhere in the house, shelves crammed with the pink-backed children's hardbacks of the Bibliotheque Rose, and the green backs of the Bibliotheque Verte, dogeared paperback collections of traditional stories from all over the world, and magnificent illustrated editions of the Thousand and One Nights, the Ramayana, Greek mythology; Tintin and Asterix, and, later huge 19th century novels: by Balzac, Hugo, Feval, Gautier. On those shelves were journeys and escapes and spells; but they weren't what we called the library. That word, spoken in rather overawed and excited tones, was reserved for Papa's library. In that room was all the mystery and strangeness and ordered beauty of another world; a world removed from yet strangely within the world we knew; a world you had to earn a place in, through patience and the gaining of wisdom, a world that beckoned, whose enchantment made time stand still. It is an image that stayed with me, and every time we went back to France as children - which was at last every two or three years - after having rushed around to rediscover toys and bedrooms, it was always the threshold of the library that drew me, to stand dreaming and hesitant looking in at the books, waiting for permission to be invited in..

In Australia, Papa had a room full of crowded bookcases, but it was not the same. The books were much less glamorous, there was no atmosphere in the room itself, and besides, I'd discovered another enchanted place. For the other world that drew me in Australia was our local public library. The children's section was probably not very big in reality, but in my memory it is a kind of huge, secure place, far away from the grit and heat of the street, far away from the dull routine of school. I was a good student, at least in fits and starts, but a rather bored one, having been raised on the rich treasure of stories, and not facts. In any case, at the rather modest parish school I went to, the only 'library' was a couple of sets of glassfronted bookcases in the senior primary room; at home, we'd only been able to bring a few of our beloved Bibliotheque rose and verte with us, and insatiable reader that I was, I'd soon have dessicated from the need to imbibe stories if we children and Maman had not discovered the local library. That was my real education in English, the library; left alone by Maman to make my own pathways through English-language children's books, I made wonderful discoveries, but also missed out on some marvellous things. Quietly stubborn, I made my reading decisions according to some rather strange criteria; sitting cross-legged on the itchy carpet near the bookshelves, I scanned titles and blurbs with a keen eye. Magic and fairies and giants and trolls and other worlds always attracted me; anything that smelt of mundane routine I cast aside, and thus it that was I met, and loved dearly, Tove Jannsson and CS Lewis and Alan Garner and Patricia Wrightson and Leon Garfield and James Thurber and a host of others; but missed out on Laura Ingalls Wilder because I was sure a book with 'house' in the title must be about housework; and that Tom's Midnight Garden must be about pushing wheelbarrows, or pulling out weeds, both things Papa used to try and force us to do; and I simply could not see why anyone would care about What Katy did at School! It wasn't till I was much older that I read those books, and loved them, and wished I'd met them much earlier..

What my mother lacked in knowledge of English-language children's books, or classical English literature, she more than made up in knowledge of modern English adult literature. She it was who introduced us to Anthony Burgess and DH Lawrence and who scouted out Australian novels for us to read, as teenagers. When, in high school, the school librarian sent a note home querying my younger sister's wish to take out Martin Boyd's mildly racy novel Nuns in Jeopardy, my mother sent back a note informing the librarian that her daughter was perfectly capable of dealing with such things, having cut her teeth on Rabelais and Perrault! I'm not sure what the librarian thought of it..but I noticed that afterwards the book was placed on a 'Special Permission' shelf!

Ah..high school and the school library..It too, became another world for me. Despite the mild wowserism that occasionally broke out a la Nuns in Jeopardy, it was a great place, and the librarians very pleasant people who did a lot to extend my reading range. It was also a place where I could go to be in peace and quiet to compose poetry and look up poetic forms which I wanted to emulate. In my first term in high school, I'd had a very bad experience of bullying which had changed the usually quietly confident child I had been into an ultra-sensitive adolescent, for whom the library was a true refuge from cruelty. When my parents, realising my plight, moved me to another school, there was no longer any need to escape, but I never quite recovered the trust I'd had in the past, and cultivated a certain wary self-sufficiency, even with my friends, which meant I could tactically retreat whenever I needed to. As well, my parents' strictness meant that much of the usual teenage preoccupations - ie sex, drugs, rock and roll, all pumped up by peer pressure - had to be kept hidden from view, secretively thought about, rarely indulged in, and that left plenty of time for reflection, for intellectual and mystical excitement, for strange story-pathways to be taken, through that world within the world. I must say that now, though I do not necessarily think that prohibition is a very good idea, my parents' attitude certainly forced me to follow my own deepest inclinations, and not just the whims of teenage fashion and trend, at a time when most kids simply cannot stand the peer pressure. I actually got bored with constant conversations about who was dating who or sleeping with who and what so and so had got up to that weekend, for all that could only be academic for me, and the library was the perfect place to retreat to, to be myself and follow my daggy enthusiasms for myth and legend and wild adventure. It had always been a place associated with pleasure for me; mind-journeys, heart-adventures, in the past; now it also became an island of calm in the turbulent seas of adolescence, where I could explore both reading and writing at my leisure. I did not spend quite as much time in the public library any more; having outgrown the children's corner, but not quite ready for the maze of adult bookshelves. Fortunately my school, limited as to space, growing hugely as to population, never stinted on the library, and there was always much to occupy me there. There were also audio-visual sets available for senior students; you could go in a little booth and write poetry whilst Vaughan Williams' The Antarctic Symphony flowed into your ears from your headset. You could also watch an early video of John Bell and the Nimrod theatre company playing Hamlet. You could sit crosslegged behind tall banks of metal shelves, and pore through all kinds of books on myth and legend, making feverish notes and sparking off all kinds of ideas for vast novels. The first novel I ever wrote - for I had written lots of poetry, short stories, plays and illustrated tales before, but not novels, thinking I could never finish one - was started thus, at the age of 16, in the library. It was a vast fantasy novel - I'd discovered Tolkien and others of his ilk by then - which would incorporate as many of the known mythologies of the world as I could manage. It filled exercise book after exercise book, full of wild magic, strange adventures, and unpronounceable names, and I loved it dearly. Writing it made me read and read even more too; for those of you who think the rise of fantasy is the sign of a growing illiteracy amongst young people in particular, think again. Fantasy writers - and readers - are probably the most voracious readers of all, delighting in all kinds of connections and arcane knowledge.

When I finished school, I left home after one too many arguments with my father, and struggled in poverty for quite a while, trying both to meet the requirements of a tough BA specialising in Middle Welsh, Anglo-Saxon, medieval romances, and Icelandic sagas, and to keep food in my mouth by doing all kinds of jobs, from folding clothes in a laundromat(where once a customer, seeing me read in a quiet moment, said to me, What! You work in a laundrette, and you read a book!) to preparing salads in a pizzeria, whilst dodging the lustful owner. None of these jobs ever earnt more than a pitiful amount. I remember once having to make a decision about whether I'd have a sausage roll for lunch or catch the bus home from Sydney Uni - I lived in Neutral Bay with my older sister. The sausage roll won; and I walked for hours to get back, stopping in on the way at my favourite place, Stanton Library in North Sydney. What a great place that was, for a desperately poor, proud student who could have been kept in the manner to which she had long been accustomed, if only she had crawled back to her equally proud and stubborn father and his strict rules! There were many days when I felt very much like giving up the struggle; but the library always put new heart into me. Not only was it free entertainment; but it also provided information on all kinds of literary possibilities, and I entered many competitions advertised on its noticeboards, and spent many happy hours continuing on with my various enthusiasms. The library reminded me that there was a world beyond flat wallets and gritty pavements and people who thought laundry assistants must be illiterate. It gave me heart, too, by reminding me that somewhere, sometime, people had cared enough about literature and about their destinies as writers to struggle through even the most difficult periods of their lives. No way did I want to follow the safe and dull careers of routine that had been proposed for me; in the reckless way of youth, I wanted to do what I felt I was born to do - and the library, so quiet and demure in appearance, but with such a multi-chambered, raging heart of tumult and vision and destiny and heartbreak and magic and joy, gave me the courage to continue, and not to lose hope..Equally, I knew that without those like me who had dared to hope and dream, to stubbornly and quietly keep on going, the library would be just a nice quiet and cheap place to sit out of the cold and the heat.

Since that time, libraries have continued to be amongst my favourite places. I live in the high cold northern Tablelands of NSW in the university town of Armidale with my family, and am a regular both in our local library and the university library, as well as having a rather large but messy library scattered in all of the rooms in our house, and trawling through the vast virtual libraries that one may find on the Net. I continue to follow overgrown, wild, exciting pathways through magical lands and undiscovered countries; many of my novels have started from something seen by chance in a library book. I have had a great deal of very pleasant interactions with librarians, and admire their great dedication, erudition and kindness to me who is often a rather disordered and awestruck traveller in their domains. Though I still love magic and mystery, I have come to understand, as I've grown up, fallen and stayed in love and had children; built a house of our own with my husband and cherished the garden we have made, that the world within the world incorporates all those things, that the flesh and the spirit are tightly woven together, and that the spell cast by the library, the spell that seems to stop time, is the spell not of old paper or old magical formulae, but of imagination, that greatest of all qualities, which makes us both fully human, fully mortal, yet immortal too. The library is the record, the garden, the house of souls; but it is also the place where the soul is helped to emerge from its chrysalis, to spread its wings and be truly free. And there is no price that can be put on that. In a world which all too often seems dominated by shiny newness and the bottom line, the library is a stubbornly ancient symbol, a stubbornly ancient reality, another world which will exist long after materialistic capitalism has gone the way of theocracy and communism.

In the Middle Ages, illiterate people used to come and gawk at the great chained book, the Biblica

Pauperium, on the lecterns of churches; their imaginations nourished, expanded and inspired by its glorious pictures and wellknown stories. Theirs was a truly visual and oral culture, much more so than ours, their traditional stories rich and deep and beautiful. But it was that single book, in all its actuality, its mysterious presence and tangible, yet elusive magic, which represented the vast worldwide library of souls for them, beyond the bounds of their villages. It was that which linked them back to an almost forgotten time, the very literate world of the Romans. That book was not for them a dead manifestation of a lost age, though; it spoke loud and clear to them. And it was partly that experience, the possibility of another world, of a limitless world within the real and rich heart of mundane and customary reality, which made Western culture gain in confidence and complexity. These days, in a time when many people, including, I'm sorry to note, some librarians, taken either by gungho neologising fervour, or panicked by the Nostradamus-like pronouncements of the media, seem determined to misrepresent the literate, indeed rather bookish, Net - in my own quite long experience of being on the Net, I've 'met' as it were, many more people interested in books, reading and writing than in real life - determined, as I said, to make out that it spells the end of book culture and of actual, as opposed to virtual, libraries, don't let's forget the lesson of the chained book on the lectern. A library's being on the Net is not going to interest those people who are not readers already anyway; but an actual library, with actual books in it, can work real and extraordinary magic. It's not a computer game that has caught the passion and imagination of modern children, no matter how computer-savvy they are; it is a series of books, the Harry Potter books, in which libraries play a very important role indeed, and in which one of the central characters, Hermione Granger, with her love of libraries, is a reflection of the author herself as a child. Ladies and gentlemen, we don't need libraries renamed as Information Services Centres; we need them recognised as strongholds and gardens of the Imagination.

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Proceedings

The Bottom Line: Performance Measurement in a Corporate Library

Moyra McAllister

"Outputs do not guarantee outcomes"
Osborne and Gaebler (1992)

In some ways the measurement of performance in a corporate library is simple. If the library does not contribute to the overall performance of the company then it will not survive. The library cannot be simply a "show piece" - it must be an essential part of the organisation.

To put it bluntly, companies exist to make money for their shareholders, or in the case of law firms, for the Partners, and this fact must be in the mind of everyone who works in a commercial environment.

Recent literature on performance measurement is moving away from the quantitative approach of counting processes such as reference questions answered (D'Avigdor 1997) to one of measuring performance against client expectations (Wilson 2000). There are also very apt reminders that performance measures and customer satisfaction surveys must be acted on and not simply regarded as 'report cards' (Cram 1997)

The environment

Blake Dawson Waldron (BDW), like most law firms, is a Partnership, which simply means that the Partners own the business. Thus support staff, such as librarians are working directly for the owners, and not as in many other commercial organisations, for a management which is answerable to shareholders, who can seem somewhat remote.

A good example of this is the budget process, where I am required to explain and defend my budget to a meeting of partners. The money that is spent on the Library comes directly out of their pockets. Because we are so close to our clients, feedback is immediate and can be sharp!

BDW has five offices in Australia, as well as a number overseas. There are 1600 staff of whom 750 are lawyers, including 200 partners. Since July 1999 the library has operated as a National service - prior to that date, although we co-operated fully, each office library had a separate budget, both for materials and staffing.

In August 1998 the management of BDW instituted a Review of Library Services, the aims of which were to identify ways of enhancing both

- **the service that the library provided to its lawyers nationally, and**
- **the cost-effectiveness of the service.**

A review team was selected consisting of myself and representatives of lawyers and support staff of different levels of experience.

Surveys were conducted in two offices to establish levels of satisfaction with the library service and to elicit suggestions for additional and enhanced services

The cost of each of the library services was also analysed, (referring to occupancy and staff costs as well as subscription costs) to establish whether out-sourcing or alternative methods of service delivery could provide a similar level of service for a smaller outlay.

The review team made a series of recommendations to be implemented over time. These included -

- **implement a national approach to charging for Legal Research;**

- **centralise purchasing of Publications and Subscriptions within national Library Services to maximise volume discounts, reduce unnecessary duplication of material and to ensure that the Manager of Library Services approves any major items of expenditure ;**
- **re-organise the Library Services team to deliver a number of services from a single point nationally (different services will be delivered from different locations) and to nominate a person with single-point responsibility for delivering each service:**
- **for example**
  - **current awareness services**
  - **services to external clients**
  - **intranet development**
- **transfer the majority of Publications and Subscriptions and Library Staff costs to National Library Services**

The review team did not recommend out-sourcing any of the library's services or functions.

It was as a response to this review that BDW National Library Services began formal operations in July 1999.

The Library team

There are 20 library staff (17 EFT) nationally, spread among the offices. A number of positions are "National". Apart from myself in Melbourne, there is the National Subscriptions Librarian based in Sydney and a National Training Librarian based in Brisbane. The other staff provide services to the offices in which they are located, with some having national responsibilities in addition to their local roles.

Performance measurement

Although we can produce statistics on number of Loans, journals circulated, reference queries answered etc. ,we do not consider these to be a relevant measure of our performance.

We approach performance measurement on three levels

- **Personal level - through annual performance appraisals**
- **Team level - our annual team meeting**
- **Service level - regular surveys, focus group meetings There is an additional measure, called Legal III, which compares expenditures between major law firms, on this scale we are the most economical legal library service among the major law firms in Australia.**

1. Personal performance appraisals

Annual performance appraisals are conducted using very generic competency profiles originally supplied by our Human Resources department. However, support groups such as the Library, Finance and Marketing are being encouraged to develop their own competencies and the library has just completed a first draft of this. This has been a rewarding experience as it has been necessary to examine carefully what we do and how it relates to the objectives of the firm.

Each employee is also expected to nominate personal goals for the year, which are checked in the following year's appraisal.

Performance appraisals are of little value if good performers cannot be rewarded and those less proficient encouraged and assisted to improve. (White 1999)

At BDW it is possible to reward good performance by salary increases and bonuses.

But, in addition to monetary rewards, BDW uses appraisals to identify training needs which are tied to personal goals and also to identified weak points. Each employee is expected to

spend 40 hrs per year in training, including seminars and conferences.

2. Annual team meeting

Each year, the Library service holds a two day meeting which all staff are expected to attend. This is held over a Friday and Saturday at a remote location where staff cannot be reached by work and we make arrangements

We employ an outside facilitator and with her assistance we review the goals we set at the previous team meeting and establish new ones. We plan a calendar of activity for the next 12 months. Also considered is how we are working as a team and what, if anything is hampering team development.

It should be stressed that this is not just an exercise for library management, all staff are included, even part time casuals and if possible, staff who may be on eg. maternity leave. All staff are expected to contribute to the discussions and constructive criticism is expected and welcomed.

This meeting is also seen as a 'reward' for the Library team's efforts in the past year. It is held at an attractive venue, with excellent accommodation, food, wine and sporting facilities. It is a cost to the firm which they are happy to contribute as long as the Library service continues to provide an excellent service.

3. Customer satisfaction surveys

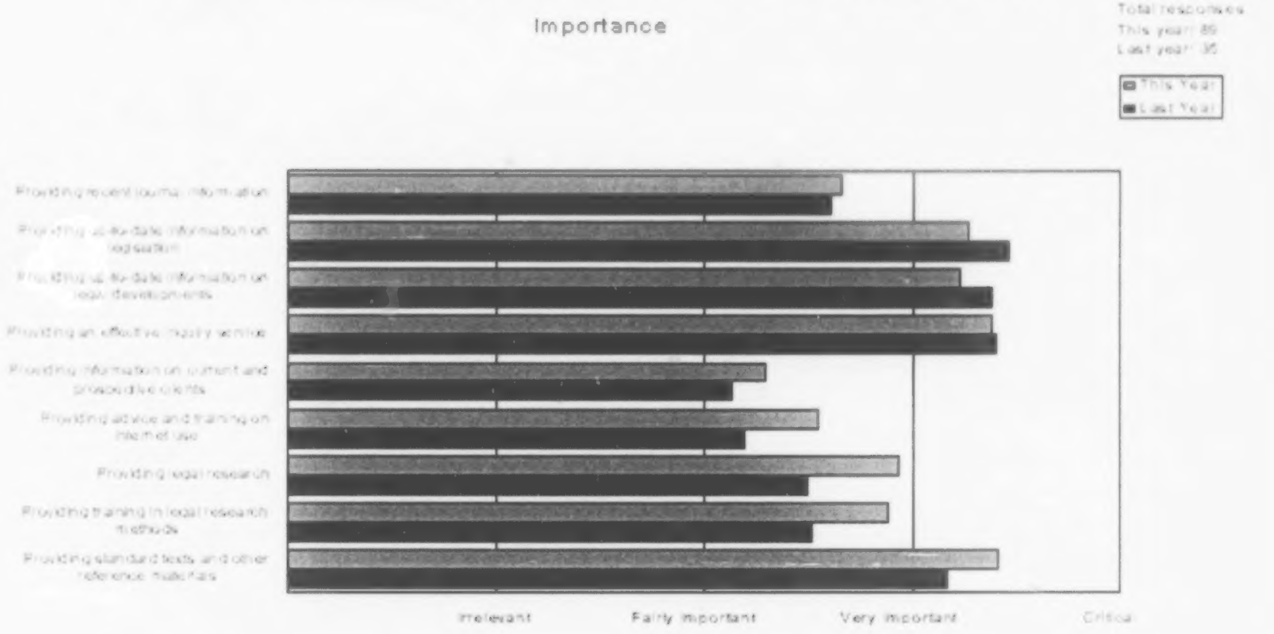
Since the review process regular surveys of customer satisfaction have been conducted in each office. These address three issues

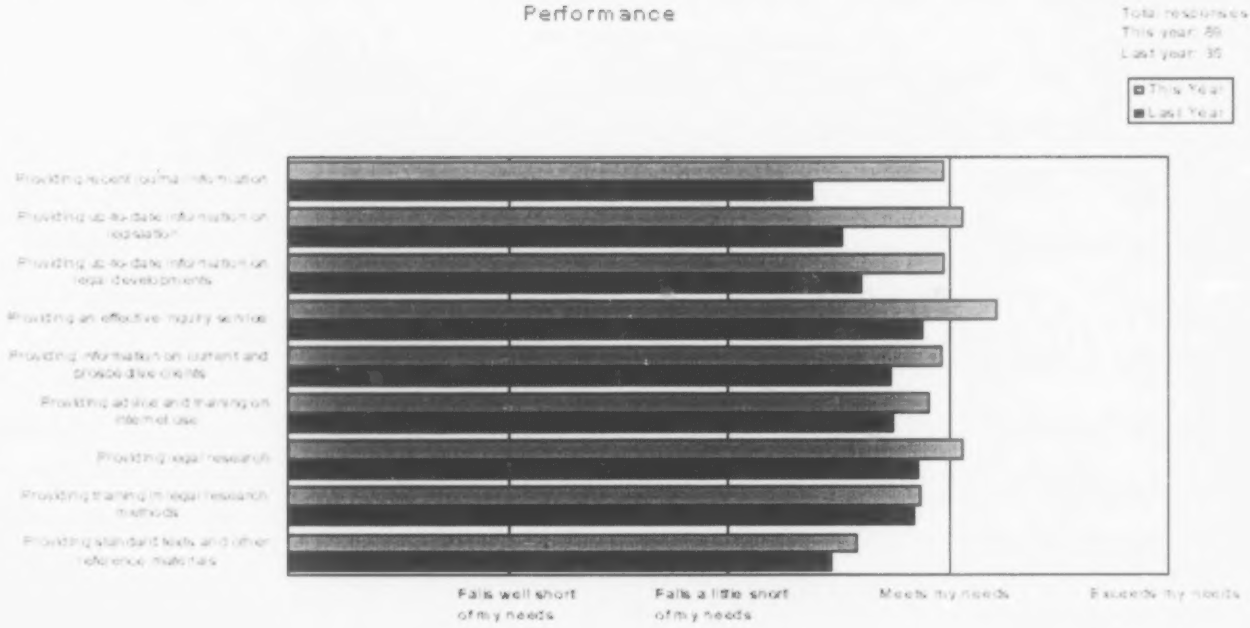
- The importance of the services provided to the lawyers
- The performance of the service.
- Overall service delivery

It is vital for the survival of the library that it does not provide an excellent service in areas that are regarded as unimportant!

The results of the 1999 survey for the Sydney Library are presented below

Customer Satisfaction Survey - Library Services (Sydney)





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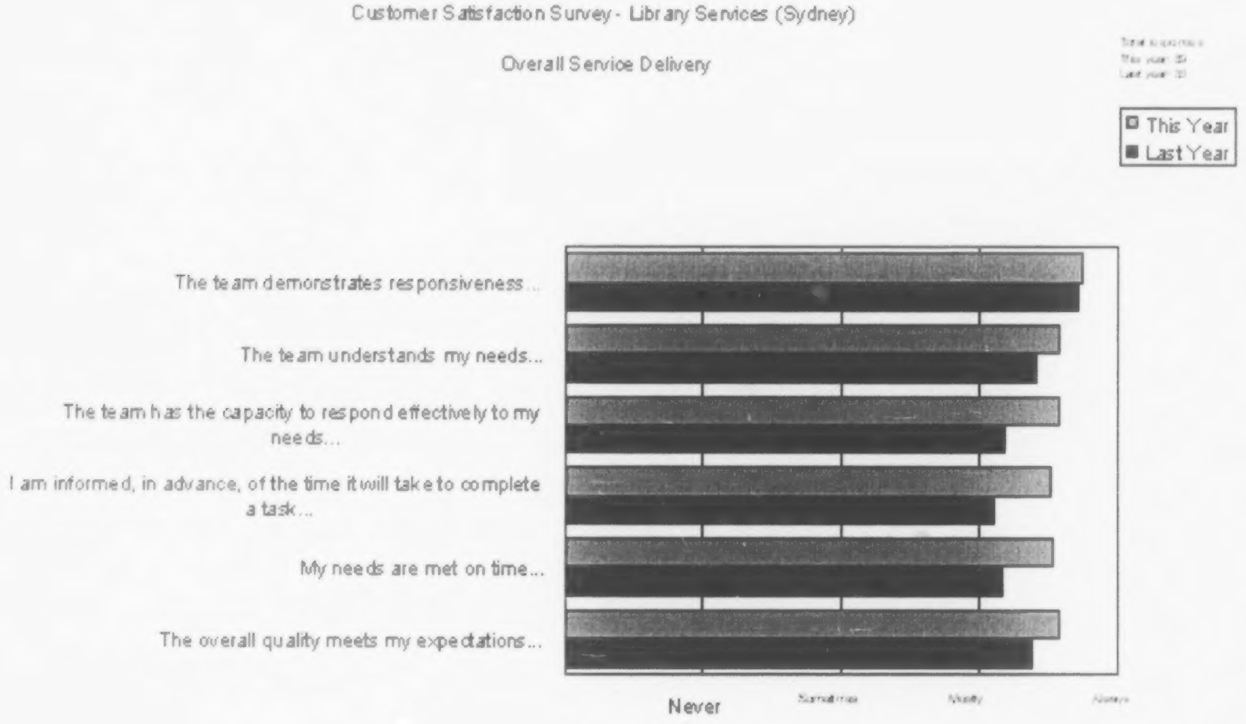

Customer Satisfaction Survey - Library Services (Sydney)

Overall Service Delivery

Three things are immediately obvious

- **We are not providing any services that are Irrelevant, which is good - but neither are we providing any that are seen as Critical and our future would more assured if we were!**
- **Response rate to the survey has improved greatly - showing that the lawyers are aware of the importance of providing feedback**
- **Our performance is improving**

[These are standard surveys conducted across all service areas and the library service is consistently ahead of all other departments]

In addition to "ticking the boxes" in the survey, participants were asked to add comments if they wished on both importance and performance. Most of the feedback was positive with comments such as "enthusiastic team", "service delivery is excellent". The few participants who had critical comments (and were willing to identify themselves) were asked to elaborate their concerns. These were sometimes the result of misunderstanding of the services, which is itself a criticism of our marketing strategies, but where constructive suggestions were offered these were implemented if possible and the lawyers kept informed of the progress.

While these surveys are valuable as a yearly scorecard of how our performance is seen by our clients, we continuously seek feedback in a number of ways

- **Library staff frequently attend weekly meetings of lawyers in specialist areas to explain new services, gather comment and ask for advice on what further services could be offered**
- **The library has a weekly e-mail newsletter to lawyers (L2L: Library to Lawyer)with descriptions of existing services, news of training sessions and handy research hints in addition to information on recent acquisitions - because this is e-mailed, feedback is as easy as hitting and many of our clients take advantage of this to comment on items**

- **Library managers in each office attend the monthly meetings of Senior Partners to explain library policy, expenditure and staffing issues - again feedback is sought and acted upon**
- **Each training session is evaluated by those attending [Appendix A]**
- **Our clients do not hesitate to comment on our service and make suggestions for improvements at any time - we are seen as a friendly and approachable**

The Bottom Line

Quantitative performance measures and service level agreements may be still appropriate for Public and Academic Libraries, (although there are indications that this is no longer enough) but for corporate Libraries in commercial organisations, the only relevant measures are qualitative.

The best indicator to us that our performance is appreciated by our employers is the recent introduction of charging the firm's external clients for the research work performed by library staff. When this was first suggested it was thought that partners would not be willing to pass on such charges to their clients. However it is now recognised that the research abilities of the library staff are in many cases superior to those of the lawyers and we 'add value' to work done for these clients and in most cases these charges are passed on. We are indeed contributing to "the bottom line".

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APPENDIX A

Evaluation of Library Training

Session Date - __________ Time - __________

1. What were the two best things about the session?

2. What were the two worst things about the session?

3. There was

. too much content for the time
b. the right amount of content
c. too little content to be useful
Comments?

4. The exercises

. helped me understand the product
b. made no difference
c. confused me
Comments?

5. The handouts

. were too detailed - I'm unlikely to use them again
b. were a good aid - I will use them again
c. were not very helpful - I won't use them again
Comments?

6. The teaching style

6.1 the trainer was concerned about my learning experience
. true
b. false

6.2 the trainer knew the topic well
. true
b. false

6.3 the style of training was appropriate in this context
. true
b. false

Comments?

7. Suggestions for improvement, other training sessions, etc. Use the back of the sheet if necessary.

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Proceedings

Performance measures, benchmarking and value

Felicity McGregor

Introduction

The announcement of the establishment of a Quality Audit Agency to evaluate the performance of universities, signalled an inevitable expansion of the incipient culture of measurement and evaluation in Australian universities. Those who consider that quality, and its associated tenets of measurement and evaluation are of dubious value, will be constrained to demonstrate goal achievement through whichever mechanisms are deemed appropriate by the Agency. Otherwise, they may face an uncertain funding future. Although the details of the audit process are not yet clear, there will be a single national body which will be responsible for overseeing independent external quality audits of universities' internal systems.

Universities will be asked to establish their own goals and conduct a self-assessment across the full range of their activities. The actual details of the audit process are still being negotiated. It is intended that all universities will be assessed every five years. Eventually, a university which fails to respond adequately to criticisms within the Agency reports could have its funding withdrawn.

The full range of activities will assuredly include libraries, which are a significant investment for universities or, depending on your perspective, a huge drain on resources. Although self-evident to many, it has always been problematic to demonstrate the value of libraries. One of the main reasons is that it is difficult, if not impossible, to place a value on information - our main product.

Libraries have been conscientious in producing statistical measures of collection size and the outputs of various internal processes. These have been useful, particularly when value was equated with collection size. While acknowledging that, in many instances, there is no substitute for significant, comprehensive on-site collections, technologically driven improvements in the distribution of, and access to, resources has seriously undermined the *bigger is better* value proposition. The perception that wanted information is ubiquitously and freely available and that libraries no longer have a vital role in universities has provided further impetus, in terms of future viability, for libraries to demonstrate that they are not only essential to the success of the university's researchers and students, but are of strategic importance in achieving the university's mission and goals.

Proving that libraries are of strategic importance will not be simple, no matter how obvious it may appear to those in the profession and to many of our clients. Some possible approaches, based on examples from the University of Wollongong are given below.

Closer involvement in University-level planning processes and in the development of courses in conjunction with faculties and media units, are strategies worth pursuing. Inclusion of library-related goals in statements of Graduate Attributes and University Strategic Plans are a first step. The *Attributes of a Wollongong Graduate* include:

> *A basic understanding of information literacy and specific skills in acquiring, organising and presenting information, particularly through computer-based activity.*

The Library took a leading role in integrating information literacy into the curriculum and in developing and managing the compulsory program which is a zero credit point subject -ILIP100 -

for newly enrolling undergraduate students. One simple measure is successful completion rates for this subject, the assessment, however, of competency in the skills is problematic. Work conducted at Wollongong through its Tertiary Literacies Working Party, chaired by Lynne Wright, the Library's Client Services Manager, has concluded that there is . . .*clear evidence to program participants of the extent to which particular competencies, skills and attributes are present* (Temmerman & Wright 2000 p 7).

Another graduate attribute acknowledges the need to inculcate skills for lifelong learning:

> *A commitment to continued and independent learning, intellectual development, critical analysis and creativity.*

Chris Brewer, Health and Behavioural Sciences Faculty Librarian, has completed a study with our School of Nursing which aimed to evaluate the contribution of an integrated information literacy program to the inculcation of skills and student confidence in locating and using information (Brewer 1999). Although the statistical measures were inconclusive, qualitative data gained from focus groups and surveys indicated an appreciation of the value of information literacy programs to the development of study and research skills.

Other sources of measurement of strategic importance include surveys exploring value or bivariate surveys which explore importance as well as performance. The following outcomes of the 1998 UoW Student Satisfaction Survey indicate that the availability of library resources are of considerably greater importance than some other university services.

Importance of Facilities	VS%	S%	M%	G%	VG%
Library - range of appropriate texts	1	9	6.7	29.2	63.1
Library - availability of appropriate texts	2	8	6.8	28.4	63.8
PG study room or office space	2.1	4.3	23.9	34.5	35.1
Laboratories	6	1.1	14	41	43.2
Lecture/tutorial facilities overall	3	5	12.2	43.1	43.9
Computer facilities	5	1.8	11.7	35.1	50.9

Importance: VS=very slight, S=slight, M=moderate, G=great, VG=very great

The above examples are random and inconclusive and, alone, say little about organisational performance.

Performance indicators in context

Measurement and evaluation of library performance has been widely canvassed in the literature. For those seeking the most up-to-date assessment of performance measurement in Australian university libraries, the single most useful tool is the report of a DETYA EIP Project (Wilson 1999) and the Best Practice Handbook (Wilson & Pitman 1999), developed as an outcome of this project. (Note: the Council of Australian University Librarians intends to keep this groundbreaking work up to date through the development of a performance indicator website which will enable practitioners to share data and methodologies). As demonstrated by the EIP Project Team's research, performance indicators and the application of benchmarking methodologies are the most commonly used tools for measuring performance. The most important consideration in selecting performance indicators is that they will enable you to measure what is critical to success in your environment. To quote from the Best Practice Handbook:

> *To be effective, performance indicators must be developed in context, not isolation. They must be firmly rooted within a strategic management and planning framework (Wilson 1999 p B3).*

The framework we have used since 1994 at Wollongong is the Australian Quality Council's *Australian Business Excellence Framework*. The introduction to the Framework states: *This is Australia's Framework for innovation, improvement and long-term success, applicable to all organisations, large and small, private and public, whatever their purpose* (AQC 2000 p1).

A large claim. However, in applying the principles underpinning the Framework over six years, I am able to affirm that the claims are not exaggerated and that the Framework has provided a solid foundation for the recognised success of the UoW Library.

It has been statistically proven that the organisations that live by these principles demonstrate improved performance over the long term and provide examples of how creating best practices across the whole management system enhances positive outcomes for the whole organisation, all of its stakeholders and its society (AQC 2000 p5).

Research underpinning this claim includes that conducted by Alexander Hausner, a postgraduate student of the University of Wollongong. Hausner's aim was to *find whether quantitative evidence exists to link the Australian Business Excellence Framework (ABEF) with business outcomes*. His research involved 22 manufacturing companies across a range of 13 different industry sectors, all of which had participated in the Australian Quality Awards for Business Excellence. Hausner's results included the following:

> *The findings show a direct link between performance in the Awards and annual improvement in bottom line results.* (Hausner 1999, p I).

Financial performance was not the only area of excellent performance:

> *Management aspects such as senior executive leadership, analysis and use of data and information measures of success and planning processes were found to be of particular importance.*
>
> *It is concluded that striving for improvements against the ABEF is therefore in the interest of all stakeholders of an enterprise particularly the business owner and/or shareholder* (Hausner 1999 p iv).

Development of performance indicators

If one accepts, from all of the above, that a measurement framework is desirable in improving and demonstrating organisational performance, then the choice of indicators and accompanying measures, which are valid, reliable and efficient to administer, remains a challenging process.

- performance measurement is fundamentally multidimensional in nature. A library or information service that wishes to really understand how it is performing will examine both its environment and its constituencies - (Cullen 1999 p 26).

At Wollongong, environmental analysis (through scenario development, SWOT analysis, professional reading and networks) has enabled us to develop Critical Success Factors - those key areas in which satisfactory results are essential to successful performance.

We have also determined the expectations of library services of our various stakeholders (through surveys, focus groups, discussions). Our broad long term goals are derived from stakeholder expectations, from predictions about how expectations may change in future, analysis of opportunities in the professional and higher education environments, and from our own values and aspirations.

Together, the goals, critical success factors and stakeholder needs and expectations provide a basis for developing a system of measurement. These factors have been incorporated into a model known as a *Performance Indicator Framework* which links performance indicators and measures to each of the aforementioned elements.

Stakeholders	Expectations and Critical Success Factors	Performance Indicators
University Executive	leadership, cost efficiency; satisfaction of scholarly information needs, a model operation of quality processes.	Leadership effectiveness, Effective budget utilisation, Client/stakeholder satisfaction, Bookvote use, benchmarking, external evaluation
Clients	service excellence, flexible modes of access to resources and facilities to enable achievement of research, teaching and learning objectives.	Collection relevance, Access to resources, Information Literacy level, Facilities use, Client satisfaction, Bookvote use
Staff	a safe and pleasant workplace, opportunity for career development, job security and empowerment in decision-making	Leadership effectiveness, Staff development effectiveness, Staff satisfaction, Communication success, Skill levels, Workplace health and safety
Suppliers	mutual understanding of requirements; the development of innovative supply solutions, timely supply of goods and services	Supplier performance, Partnerships
Community	authoritative information resource, satisfaction of information needs, collaborative partnerships as well as the effective management of resources	Access to research resources, Community partnerships

The framework incorporates both *lead* and *lag* indicators. *Lag* indicators enable measurement of goal achievement and evaluation of success or assessment of benefits provided over a period of time. *Lead* indicators are used to measure process, operational performance and patterns of usage; to provide ongoing feedback and thus alert managers early to changes or unexpected variations. An example of a lag indicator is *client satisfaction* whereas a lead indicator may be *client feedback incidents*.

All indicators at the UoW Library are designed to contribute to the evaluation of organisational performance through a single Key Performance Indicator: *Client and Stakeholder Satisfaction*.

Performance indicators should be regularly reviewed, developed and refined as new sources of data emerge, collection and analysis methodologies improve and the processes or performance to be evaluated change. Moreover, client and stakeholder expectations of library services are constantly evolving in a dynamic environment and perceptions of value should be regularly surveyed to maintain alignment with internal operations and service priorities.

Value

The question remains whether measures of organisational performance, strategic importance and stakeholder satisfaction can be aggregated to determine whether library and information services are of value to their clients. As mentioned in the introduction (above), it is difficult to measure the actual value of information with accuracy or objectivity. The question of value measurement is discussed extensively in a 1991 study by Broadbent and Lofgren who make the following points:

> *Libraries support research and education which in themselves are difficult to assign precise economic value.* (Broadbent 1991 p 96).

In attempting objective measurements of the actual effect of information on performance, it is difficult to define and assess the impact of all the other variables which will affect the outcome.

A library service may be a necessary prerequisite for the operation of a research department, but it is not likely to be possible to define the precise contribution of the library to research results (ibid p 98).

When the real impact of an information system cannot be measured, the perceived value may have to be accepted as a proxy. The perceived value approach is based on the subjective evaluation by users and presumes that users can recognise the benefits derived from an information service ... (ibid p 98).

Acceptance of this position underpins our decision at Wollongong to adopt the one Key Performance Indicator of *Client and Stakeholder Satisfaction*. Measures, which include surveys, feedback incidents, timeliness, responsiveness and so on, are essentially measures of perception. Although research continues on identifying indicators which are objective and able to withstand academic scrutiny, there is a danger that the development, administration and interpretation of these indicators will be too time-consuming to be justified in an environment of resource constraints, and in which flexibility and change agility may be the key determinants of future sustainability.

Agreement on the nature and purpose of performance indicators and the development of common instruments for measurement is also a prerequisite for the development of national standards or benchmarks.

Benchmarking

A system of regular internal measurement provides the information needed for benchmarking. Benchmarking has many definitions and many purposes. It is primarily a tool for learning and improvement. For organisations which aspire to excellence or best practice, then benchmarking is a means of testing achievements, services and processes against those of other organisations.

Benchmarking thus needs not only to identify successes to date but also vital signs of adaptation to the future. A university's dynamism is as important as its current achievements, indeed probably a better guide to its future performance McKinnon 2000 p 3).

The Library profession is not lacking in data nor in performance indicators and measures. It does, however, lack clear benchmarks which can be used by libraries to identify best practice, to constantly learn from each other and thus add value for their clients and to progressively improve the performance of all libraries and enhance their standing and recognition in the community. The recently published manual *Benchmarking: a manual for Australian universities* identifies benchmarks for all key areas of the University. The chapter on Library and Information Services is premised on the need to identify benchmarks which will assess *Efficient use of resources and the quality of contributions to realisation of the university's objectives . . .* (McKinnon 2000 p 115). Most of the benchmarks are *criterion reference* benchmarks, that is, they identify the attributes of good practice and can be used primarily for internal evaluation. To determine best practice, quantitative, comparable information would also be needed.

Benchmarking is also available to those libraries whose parent institution are members of the Commonwealth Higher Education Management Services (CHEMS) or Universitas 21, however, participation is limited to members and the benchmarks are not widely available.

Those libraries participating in AQC Benchmarking networks are able to benchmark against network members - almost invariably non-library organisations - which in no way diminishes their usefulness but does not replace the need for specific library-related benchmarks.

In conclusion, for reasons of both political necessity and future sustainability, as well as the need and desire of managers to know how their organisation is performing and whether library services are meeting the needs of clients and stakeholders in a timely, efficient and effective manner, performance measurement and benchmarking are essential tools. Benchmarking should not be construed as a competitive activity amongst libraries, rather as a means of identifying *best practice* and of continuously improving all aspects of performance. As a means of demonstrating competitiveness against *non-library* information providers, however, benchmarks could be extremely useful for libraries as they increasingly operate in an environment which is global in perspective and which is attracting potential competitors seeking to profit from the delivery of online education.

Performance measurement is a highly political activity and must be seen as such, at the macro or micro level. We must look outwards to social and political expectations made of our institutions and ensure that they meet the needs and expectations of our significant client or stakeholder groups; we must use our planning and goal-setting activities in a meaningful way, incorporating appropriate measures, to demonstrate our response to this external environment, and our willingness to align our aspirations to broader corporate goals. But we must also look within and seek to promote an organisational culture which acknowledges the political nature of measurement. This means using performance measurement to:

- *Indicate the library or information service's alignment with broader organisational goals;*
- *Demonstrate the integration of information services with the key activities of the organisation, or of the community;*
- *Support the library's position as the organisation's primary information manager and service provider* (Cullen 1999 p 25).

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Proceedings

Changing our future: issues in leadership and management skills and the information profession.

Prue Mercer

Introduction

Information services and libraries now provide inherently paradoxical services by delivering the real and the virtual, with high tech and high touch services connecting people and technology. Tensions around the value of information services are reflected in the culture of our organisations and the way we approach balancing and optimising these paradoxes.

This paper proposes that current and future managers of information and library services must be adaptive managers who have developed the key skills of managing change and leadership through learning and understanding the processes and values which sustain their organisation's purpose. Active participation in organisational leadership is one of the challenges for the profession in a world where the relevance of libraries and librarianship is openly questioned and demonstrated through our distribution of information via tools such as the Internet.

In this context the paper explores the issues and opportunities for information providers in a digital environment where the skills of management of change and leadership are necessary to create vital and healthy organisations. These skills can be acquired from understanding ways of thinking about management and organisations. This paper questions popular notions of the leadership dynamic where leaders have been seen to be born or instinctive. Examples of developing different ways of learning about leadership are provided from management development programs for current and aspiring managers at the State Library of Victoria.

Challenges of the Digital Environment and Skills for the Information Profession

There are many assertions about the impact of technology on the world of information and libraries - from the enthusiastic technophile approach, such as that 'by 2047 ...all information about physical objects, including humans, buildings, processes and organisations, will be online' (Bell and Gray, 1997:5), to the more moderate approach using metaphor to describe technology as tool, text, system and ecology where an information ecology is a system of people, practices, values and technologies in a local environment (Nardi and O'Day 1999).

It is clear that libraries are in a time of significant change. Aspects of the traditional role of the library are being challenged by the easy availability of digital information and converging technologies. As a result libraries are redefining their role and value in society. This process is revealing inherent tensions in our capacity to manage paradox and to be real and virtual (print and electronic, the hybrid integrated library), 'there and not there' (part of the economy of presence where remote and local services exist according to availability and cost)(Mitchell and Strimpel, 1997), and 'high tech and high touch' (Naisbitt, 1982), where technology is aligned with personal elements, such as self-customisation of software.

Martell (2000) describes these paradoxes as historical discontinuities - time and space, mind and body, real and virtual, and humans and technology. His conclusion is that within twenty-five years the physical symbol of the library will no longer be viable to describe what librarians do, but that librarians will remake the image of libraries by creating a virtual library space.

For information and library users uncertainty is pervasive in the seemingly certain technological environment. There is an overwhelming amount of information in multiple formats and users require assistance in making sense of this and finding and understanding information. Up to now capital and status in the profession has been based around 'things' rather than processes and interactions. Identifying and accessing documents has been the primary role. This bibliographical paradigm has meant that systems of work have focussed on texts and sources and not on the process of information seeking.

There are emerging ways to create a virtual library space beyond digital content and include new services, such as email reference, online on call systems, online tutorials and interactive training systems. At the State Library of Victoria we have a digital reference program to explore and extend these services.

Libraries (real and virtual, hybrid and complex) are:

- The memory of society
- Provide access to learning resources and works of creativity
- Provide opportunities for a variety of cultural pursuits
- Empower individuals with information skills
- Provide a socially inclusive and creative environment

Challenges to the role of libraries, and the redefinition of the value of this role, demand a different style of management and leadership and new skills for the information profession.

There is much research and analysis on the issue of skills in the information sector. Last year CREATE Australia published a training package in library and information competencies for certificate and diploma courses. The 1998 report from the United Kingdom Libraries and Information Commission (LIC, now replaced by the Council for Museums, Archives and Libraries) *Building the new library network* devotes an appendix to skills. This is a comprehensive analysis of a number of recent studies and projects and focuses on the impact of the environment on skills of library staff.

The core skills highlighted are:

- Management skills, especially for leadership, cultural change and finance to support the change
- Information technology skills and competence
- Approaches to and skills in working in groups and teams
- Strategic thinking skills
- Customer service skills

A report by TFPL Ltd (1999) commissioned by the LIC found that information management skills are important for the knowledge management environment. The needed skills range from understanding the business processes of the organisation to change management, to leveraging information technology to document and information management. The link with traditional information service skills are in the core set of information literacies - finding, appraising and using information - the interactive information seeking process skills.

The National Library of Canada's work on core competencies (Scott, 1998) highlighted skill sets covering communication, information technology, dealing with change, organisational (planning and managing work and priorities), problem-solving, teamwork, self-management, corporate (mission and values, marketing and promotion). Competencies required under specialised activities are service (to public), people management, process and organisational management and systems and information technology support. Specific skills under change include adaptability as well as the ability to deal with ambiguity.

Addressing the Challenges with Staff and Management Development Programs

At the State Library of Victoria we have implemented a number of approaches to developing skills. These are part of our whole environment of change where we have been re-focussing on our users, our building redevelopment, our role with public and regional library communities, our role as a cultural institution, our role as information professionals, and encouraging the growth of online technology including digitisation programs and integrated system development.

Within the information services division (State Library Services) our approach has also included best practice reviews, digital reference service initiatives, lifelong learning programs, staff training and development and establishing service values. In staff training we have encompassed developing a skill sets or competency framework to working with other libraries in collaborative training programs.

Information Service Values

We wanted a cohesive and shared understanding of the core values that underpin and inform actions, services and processes. The values evolved as a result of a series of information services staff workshops, and are reinforced in annual staff performance management plans and policy documents. They are:

Customers

We value an open, inclusive and equitable service that promotes customer awareness and ensures understanding of information resources.

Knowledge

We value intellectual curiosity, specialised knowledge and creative approaches to customer service and information delivery.

Teamwork

We value a dynamic and co-operative work environment, fostering strong teamwork and a collaborative approach to achieving our goals.

Collections

We value the library's collections and information resources and the potential of new technologies to make them accessible to our customers.

Environment

We value a secure, responsive and welcoming information environment that promotes customer confidence in the library and its services.

Staff, Leadership and Management Training

In 1998 internal training specialists and managers developed a framework of skill sets to support the existing individual training needs analysis process, and the identification of training priorities in strategic and business plans. The framework has operated since then in conjunction with skills auditing processes which enable staff to assess their learning needs.

Skill sets in this framework are:

- Communication and interpersonal skills

- Marketing and promotion
- Technologies
- Self and team management
- Change management
- Problem-solving
- Mission, vision and values
- Task specific skills and knowledge

Over the past two years we have focussed a large number of training programs on technologies and self and team management. This aligned with organisation-wide initiatives as well as arising from specific application needs and uses. For example, we provided over 14 programs for staff in the last year under technologies, from Kinetica to HTML. From 1997 to 1999 there were 22.

Management training has intentionally targeted the area of leadership development. For example, in December 1998 senior managers attended a workshop with Alistair Mant on *Intelligent Leadership*; and, in February 1999 (for all self-nominating staff) we held 'Leading from any position in the organisation' workshops with external trainers which focussed on exploring five leadership values:

- Self awareness
- Stands in the future
- Customer focus
- Collaborative spirit
- Bias for action

This was a highly successful program and staff gained the skills to participate in organisational leadership.

Collaborative Management Development Training

In July 1999 we formed a collaborative partnership with the University of Melbourne and RMIT University. This was as a result of identifying a common need for a management and leadership development program for about 80 middle managers, or those with the potential to move into those roles.

The needs analysis process at each institution had identified:

- Need for staff to recognise assumptions about behaviours
- Issues about influencing up and down the line
- Need for understanding context of work - norms, values and power dynamics
- Issues around accountability and responsibility so staff can lead from any position in the organisation

The program focussed on these areas and employed a training consultant to deliver a customised experiential program. The program started with a keynote speaker to highlight the issues in the context of library roles, then moved to a series of workshops over two days, with a follow up half day session several weeks later. Activities included identifying communication styles personally through to study groups for peer learning. To date we have evaluated the impact in two stages. The first from immediate reactions, and the second from a focus group a year later.

Immediate reactions reported that the most important points learned were leadership, assertiveness and influencing skills, particularly in communication with staff; change management was identified as something to be covered in the future. There was clearly value in establishing reflective practices - 'All learning helps, but I need to reflect'.

The focus group assessment highlighted that meeting with people from other institutions was valuable as well as taking time out (reflective practice), and going to an environment external to the usual work place. The main benefits participants reported were in using the skills and understanding gained about communication and influencing in interactions with staff and their own managers. Some comments - ' I have been practising more as a driver'; ' The training has given me more confidence to bring out personal skills - '; ' I have been allowing team members to be influential'.

The benefits of this training reinforced the 'leading from any position' approach and the value of learning influencing skills to facilitate participation in organisational leadership. As well it endorsed developing reflective approaches to managing.

A further course for staff who attended will focus on collaborative and interdependent leadership styles, and using adaptive planning approaches with groups and teams.

Ways of Thinking about Organisations and Managers

Developing and evaluating development and learning programs led to exploring management and leadership skills and concepts, and in particular, research narratives on organisations, leadership and change.

Organisations are Many Things at Once

Information service providers work in buildings, offices, on computers, telephones and reading rooms as employees of private and public companies, schools, colleges and educational institutions, governments and government agencies. They are members of organisations. Organisations are complex paradoxical phenomena that can be understood in many different ways. An organisation being an intangible concept unlike a building or a school. It is derived from the Greek word *organon* meaning tool or instrument. There is no one way to define an organisation which applies to all the places people work.

Morgan (1997) proposes that our theories and approaches to organisational life are based on metaphors that lead us to understand and see organisations distinctively. Many of our conventional ideas about organisations and management build on a small number of taken for granted images or metaphors, especially mechanical and biological ones, reflecting the influence of early management theorists such as Taylor and the idea of there being one best way to manage.

We use a metaphor or an image to describe a relationship between things. The value of recognising and understanding metaphor is because it is an entry point into the cultural knowledges which have been encoded by our narratives or stories and the processes we have used to make sense of phenomena around us.

In his study Morgan (1997) selects eight key images of organisations from a range of diverse sources from organisation and leadership research. This aims to develop a way of thinking that can cope with ambiguity and paradox, beyond the mechanistic or organism approaches. A reading of an organisation could involve a systems perspective, a change perspective, a cultural or mechanistic perspective as well as a psychoanalytic. For example, an analysis of the pattern of events in a public library system with philosophical differences about how it should grow and develop in terms of a technology partnership could be interpreted:

By the machine metaphor as an organisation drifting into mechanistic ways.

By the organism metaphor as an organisation out of alignment with external challenges.

> By the culture metaphor as the 'old' style of service being reproduced in the ' new' partnership.

> By the political metaphor as an organisation that has been factionalised as a result of the competing interests of the managers competing over the changes.

Within that interpretation one metaphor will be dominant, the others will be supplementary. In this case the dominant one would be the organism metaphor.

Bolman and Deal (1991) focus on four frames - the structural, the human resource, the political and the symbolic. Senge (1990) uses the term 'mental model' to describe an individual's distinctive perspective on an organisation. This is a world of multiple cultures, stories and narratives, and reading what is happening in your organisation is a key competence for managers.

What managers and leaders do

In the same way that images and narratives of organisations frame our thinking about organisational life, the story of leadership is embedded in the narrative of leadership research, concepts and ideas. In the 1960s and 1970s the literature on leadership stressed openness, sensitivity and participation. In the 1980s we heard of concepts such as 'management by walking about'. Writers argue the split of roles between a leader and a manager.

Mant (1997) notes differences between the European and American approaches to research in management, resulting in the split in the American narrative between a leader and a manager, but an integrated approach in the European tradition.

Our management and business culture has been influenced by Taylorism or the scientific approach to management, and this can be linked to traditional approaches to knowledge in our universities which has flowed through to business schools (Weisbord 1987;Schon, 1983; Morgan 1997).

However management is about phenomena and not suited to be viewed as part of the tradition of scientific reductionism (through the legacy of our research and university systems), unlike medicine or engineering where physical evidence leads to certain outcomes. Managers quite often do not use the methods they are supposed to (Schon, 1983). Rather they engage with the unique circumstance before them, such as an opportunity to develop a new service, using individual approaches to resolve a unique problem and in so doing contribute to and participate in the knowledge base and learning systems of their organisation.

Processes, like service and product development, require participation in an organisational dynamic involving status, competence, confidence and individual win-lose approaches. Data, such as market research helps, but a manager needs vision and confidence to make a decision, as the information in these processes will never be complete. Schon analyses the art of managing as reflection in action, but maintains that this intuitive thinking is often not articulated, hence perpetuates one of the myths in management that one must choose between practice based on management science (there is a right way) and an essentially mysterious artistry (people are born leaders).

Decades of leadership research have failed to inform how to create effective leadership (Argyris, 2000). One of the key Australian business leaders of the last decade (from the United States) Blount (1999:183) notes, 'My sense as a comparative outsider has been that Australians broadly view leadership as something rather uncomfortable, the job for the masochist, the insanely ambitious, the workaholic, or the outsider'. However he also reported that he had changed his view on leadership in a speech to the Institute of Company Directors in Melbourne, December 1999, and believed that leaders are made, not born, and that leadership is about addressing how to make a positive change in the environment - leaders of the future are about managing change.

To succeed managers must now be skilled managers of change. However the narrative in the management research culture on change and leadership has tended to confuse or cloud the issues around how these skills are acquired and enacted. In a range of organisations and industries a lot of change initiatives fail (Senge, 1999). A large part of the cause of this failure tends to be because the high focus on projects undermines the human dimensions of change. Project plans often do not allow for the time it takes to work with people to make changes. People tend to focus solutions on task rather then changing themselves.

Summary

In our current environment managing change and leadership are significant skills identified for sustainability as libraries, librarians and information services professions with a role in the digital future.

In a profession where capital has traditionally been based on technical knowledge and things or artifacts we are challenged in understanding the processes behind successful change and leadership.

The research culture on change and leadership has obscured the dynamic nature of these skills. Failure to sustain significant change occurs again and again. Leadership research cannot inform us how to create or become effective leaders.

Organisations are many things at once - they consist of multiple realities, ambiguities and paradoxes. Change and leadership issues get caught up in the dynamics of these processes and these processes are played out in the organisation's culture. These tensions are compounded by the challenges to libraries.

Leaders and managers must have the ability to work in an environment of continuous planning and review where interdependent relationships create a different dynamic, accountability and role. This 'adaptive' manager and leader is an enabler who facilitates people to be leaders themselves.

Successful organisations with the capacity to adapt to change are built on the systemic building blocks of the group, clear organisational purpose and accountable leaders. These enable people in organisations to move from a mechanical world of measures, plans and programs and control to a living world where responses to change are dynamic and interdependent. And in so doing the capacity of the organisation to embed reflective practice into organisational life is enhanced.

Conclusion

Working with dynamic processes can be learnt. The experience of our management development programs shows that there is enormous value in focussing on influencing skills which build an understanding of the processes in enabling and communicating. These are the foundations of our future adaptive managers.

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Self service: what is the function of the new intermediary?

Michael Middleton

Introduction

In the business world it's called eliminating the middleman. The advent of electronic commerce, led to cries of we can do it!- disintermediate so that customers may deal directly with suppliers.

However, just as often as there is rejoicing that we are able to buy direct, services jump up that add value to our purchasing by inserting expertise about the product. Typically, these products are *physical* entities such as motor vehicles or wine. Perhaps they justify someone testing them for us, particularly when we can trust such an intermediary's expertise and experience more than our own. Is it a different matter when the entities are *digital*: music, a travel reservation or a financial transaction? It is the elimination of brokers for commodities such as these, which has caused people in the world of e-commerce to talk in terms of compressing the supply chain.

If businesses can make more information available on a self-service basis, with users having access to current news, intelligence and data, they can react faster to potential problems and capitalize on market opportunities. This may go hand-in-hand with reducing the volume of printed reports (or at least, those paid for by the businesses). To quote Philip Russom, a business intelligence service director "CIOs are looking for these types of self-service and zero-support applications - . Overburdened IT departments are reluctant to deal with the training and support issues when [heavy-duty] business intelligence tools are placed into the hands of hundreds and thousands of nontechnical users." (Ruber, 1999)

In e-commerce however, there has been a reaction to the self-service approach. Investigators have noted that just in physical markets, intermediaries aggregate buyer demand, act as agents of trust by preventing opportunistic behaviour, facilitate market by reducing operating costs, and match buyers and sellers. These same functions are valued in e-commerce. (Bailey & Bakos, 1997)

A recurring pattern of intermediation, disintermediation, and reintermediation has been identified in e-commerce (Wigand, 1997). Analysts such as Chircu & Kauffman (2000) have found that traditional firms (in this case in the travel industry), have access to a range of strategies that enable them to avoid disintermediation and retain highly profitable central roles in the marketplace in the long run.

Intermediation and the information professions

A good profession should try to make itself redundant, by empowering people to help themselves.

However, with the advent of digital media, information professionals have periodically felt threatened by disintermediation. This arose as an issue some time ago when the command-driven interface began to be more user-friendly (user-friendliness is a term that I haven't heard used as much lately as in the past!). Of course the intermediary long predated the digital database, and qua librarian or archivist, provided the essential access to the collection - either via direct personal assistance, or more subtly by creation of the finding aids. Although librarians grasped the initiative with early information retrieval systems and provided the service, many carried out information retrieval as one duty among many other duties.

There have regularly been reactions to technological advances and those in the industry at least, have found justification for continuing intermediary roles. For example the problems of end user searching have been outlined by Griffiths (1997) who pointed to the influx of online availability to users during the 1990s leading to many of them being disillusioned by information overload.

As a consequence a positive role for the intermediary may be promoted though:

- Saving managers time by negotiating the technology and being aware of its shortcomings
- Improving the managers' satisfaction by shielding them from the stress of what is variously called *data smog* and *infoglut*
- Establishing corporate knowledge centres to help manage the problem
- Identifying specific information requirements per medium of the reference interview - thus avoiding the generic problems of so-called push technology
- Organising of information so that it is structured specifically of the requirements of the enterprise
- Going beyond the limitations of search engines with their limited retrieval functionality and coverage.

If information is the commodity we are seeking, should we find it ourselves, or employ intermediaries (bearing in mind that finding it ourselves is often made possible by the metadata provided by intermediaries)?

The person who looks up an author in a catalogue and finds a reference to the item on a shelf is using an intermediary who has increased the value, decreased the noise by standardising forms of author/title entry. The Web is yet to achieve this, but it is the intermediaries who are tackling the issue by providing metadata.

Online systems may remove the obstacle of access to the systems that provide information, but they don't remove the barriers to the relevant information that is required. Most users of search engines use single term searches, and do so without an appreciation of the range of contexts in which the terms may appear. The issue is not about whether it is possible to retrieve information, but whether you can retrieve a manageable pertinent amount. Therefore the concepts of precision and recall continue to have importance and require professional application.

This is not to say that intermediaries must concern themselves only with searches involving complex cognitive interrelationships. Even a simple, clearly expressed request may lead to complex retrieval requirements - take for example, the 'quick' search for annual reports of the Department of Communications (or any number of bodies that are constantly changing their names if not jurisdictions), or the 'quick' search for a patent on lipstick).

Empowering the individual happens only via education, itself provided by information intermediaries. The education must be undertaken at a number of stages from school for general information literacy concepts, through to tertiary education where the information literacy is more contextual and introduces students to the documentation of their discipline, as it relates to their assignments. However, even the information literate (perhaps, especially the information literate!) will in the work place save time and money by employing a specialist who can do the job faster and more effectively.

Information regularly needs to be repackaged so that it may be better suited to the cognitive framework of the recipient. The tools and techniques available for repackaging are normally the province of an intermediary.

Many writers have defended the role of the librarian as information intermediary in a digital environment while qualifying their support with statements about the need to embrace the technological support mechanisms, and promote their information skills in corporate settings (Abbott, 1998; Bale, 2000; Zipperer, 1998).

Some investigators have noted that the availability of intelligent agents, data warehouses, digital libraries, corporate intranets, groupware, and the like, may be taken as opportunities to advance library skills beyond traditional boundaries. Fourie (1999) sees it as either a threat or a challenge depending on how the issue is viewed, and itemises activities such as the following to explicate the expanding role of the intermediary:

- Negotiating with database vendors and other organisations that provide access to information. This is done according to the needs of end-users - the negotiations can include the quality of services provided as well as the user interfaces
- Organising subject access to unstructured information sources (e.g. resource guides and directories of Internet resources)
- Designing intranets for organisations
- Providing training and support services for endusers - the need for the continuing education of end-users (e.g. in new developments) is stressed in particular. Information skills should also be taught as part of research processes
- Getting actively involved in practical research on information retrieval and related services
- Monitoring the quality of databases and other information sources
- Working with other role players (such as publishers and information providers) to improve the quality of, and access to, information.

Fourie also considers management of an information service as a whole, and proposes the following actions in order to secure a future for intermediaries:

- Monitor and possibly influence the organisational culture with regard to expectations of information specialists as well as other employees of the organisation (e.g. encouraging employees to do all their own information searches)
- Create a working environment which stimulates awareness of new developments in the online industry, database products and techniques for information retrieval (e.g. do information specialists have access to the latest information in the field of online searching and the services they have to provide?)
- Promote a learning organisation (i.e. an organisation that facilitates learning for all its members (including end-users) and continually transforms itself)
- Initiate and promote practical research projects, including publications on research results (to improve the services provided, the skills of information specialists, as well as the image of information specialists)
- Actively market services and products
- Negotiate partnerships with other role players (e.g. computer services, publishers, faculty if it is an academic information service)
- Promote co-ordination between research results (including academic research) and practical implementation
- Provide opportunities for continuing education, for example through networks.

There are clearly many opportunities in many contexts for information intermediaries. I now consider specific workplace examples.

Case studies in information intermediation

The role and importance of the intermediary has been made evident by descriptions of a number of roles in which the bringing together of people and information sources is recognised as a sophisticated and important responsibility.

Three examples of such information intermediation are the information architect, the knowledge manager, and the facilitator.

Information architect

The information architecture movement, has probably been given most impetus by the Rosenfeld & Morville book (1998), in which they address various questions with respect to Web site design. These questions such as "what do we do that improves understanding in others?", and "How can we help people make connections, construct meaning, and respond in ways that increases their possibilities?", are the same type of questions that an editor (another intermediary whose role is converging with other information professionals), may ask with respect to print format material.

They see the role of an information architect as:

- Clarifying the mission and vision for a site, so that the needs of it sponsoring organisation are balanced with the needs of its users
- Determining the content and functionality of a site
- Specifying how users will find information in the site by defining its organisation, navigation, labeling and searching systems
- Mapping out how the site will accommodate change and growth over time.

This is something more than concern with visual design aspects for human-computer interaction. It assumes information management and project management roles that include:

- User-orientation in working towards the form and function of a site and the navigational metaphors that are used within it
- Attention to the interactivity aspects of a site so that it may for example be readily updated by interface with databases
- Creation of *metadata* that describes the site and makes it more amenable to location by specialised search engines
- Creation according to *evaluation standards* that exist for the structure and organisation of a site.

Below is an example of a recent advertisement for an information architect seeking a creative individual to carry out a number of responsibilities.

> CLIENT RESEARCH
> * Learning more about our clients' organisations, their goals, their users, and their content.
>
> PRODUCT RESEARCH
> * Exploring technologies that complement the abilities of humans to add value to information.
>
> INFORMATION ARCHITECTURE DESIGN
> * Creating usable organisation and navigation systems. Developing controlled vocabularies and thesauri.
>
> CLIENT MANAGEMENT
> * Presenting ideas, leading discussions, and generally collaborating with our clients to produce innovative solutions.
>
> TRAINING
> * Facilitating knowledge transfer, so that our clients can design and manage their own information systems.

The position description (Argus Associates, 2000) expects that a successful applicant should:

- Understand the principles of information organisation and user interface design
- Have an advanced degree in library and information science or human-computer interaction, experience designing and developing information systems
- Have excellent communication, organisation, and management skills and should be comfortable maintaining relationships with clients and colleagues
- Have experience as a team member on information system development projects is desired.

Knowledge manager

Despite the lack of delineation between data, information and knowledge (and the improbability of managing knowledge), we are increasingly seeing use of the term knowledge management in business. There are multiple definitions reported (Beckman, 1999), for example:

- Systematic, explicit and deliberate building, renewal and application of knowledge to maximize an enterprise's knowledge-related effectiveness and returns from its knowledge assets (Wiig)
- Capturing a company's collective expertise wherever it resides - in databases, on paper, or in people's heads - and distributing it to where it can produce the biggest payoff (Hibbard)
- Right knowledge to the right people at the right time so that they can make the best decision (Petrash)

The definitions normally do not trouble to make a distinction between management at operational, analytical and strategic levels. At the operational level knowledge managers are required to collect and organise internal and external information. At the analytical level, the role is more about determining user information needs and system requirements. At the strategic level, enterprise planning issues are the main concern.

Assuming that knowledge retained by people is tacit, and that when made explicit it is documented as information (and therefore becomes manageable), then the performance of this role is one of information intermediation. Knowledge management tasks typically encompass:

- Repository building and maintenance, that bring together the knowledge in people's heads, with what is documented in digital or paper form
- Articulated models of knowledge flow and communication in order to obtain shared outlooks, so that there is an acknowledged continuity between knowledge in people's heads and what is recorded, and a mechanism for accomplishing this
- Metainformation maintenance to ensure that knowledge description is carried out according to rules, controls and vocabularies to assist with retrieval
- Information retrieval per medium of software that supports principles of recall and precision refinement, and the ability to provide ranked and easily restructured reports
- Identification, evaluation and use of appropriate information sources such as market surveys or aggregated transaction reports that is gathered to make decisions
- Indicators of performance, such as counts of knowledge sources, comparisons of database scope, or numbers of information retrieval transactions, as input measures, or outcomes such as income from innovation or by consultancy, or by publishing as in academic institutions
- Training of employees about information resources and role in information transfer.

Facilitator

The term facilitator is used in the domain of groupware, and analytical work has been done on defining the facilitation role (Clawson & Bostrom, 1993) leading to identification of the following 16 responsibilities:

- Promotes ownership and encourages group responsibility

- Demonstrate self-awareness and self-expression
- Appropriate selects and prepares technology **
- Listens to, clarifies, and integrates information **
- Develops and asks the "right" questions **
- Keeps group focused on outcome/task
- Creates comfort with and promotes understanding of technology & technology outputs
- Creates and reinforces and open, positive and participative environment
- Actively builds rapport and relationship
- Presents information to group
- Demonstrates flexibility
- Plans and designs the meeting process
- Manages conflict and negative emotions constructively
- Understands technology and its capabilities
- Encourages/support multiple perspectives **
- Direct and manages the meetings **

A comparison has been made between these roles and the roles of librarians as intermediaries (Schreiber & Moring, 1997). They took a set of defined information intermediary functions (Ingerwsen, 1992) to be:

- Dialogue function(s) - directed towards user and IR systems in order to learn about these components
- Domain knowledge or model function - to understand information need and problem space underlying the request
- Request modeling function - to translate request to query
- Systems model building functions - to understand the features of the IR systems
- Systems selection function - to choose an adequate IR system
- Matching function - to search the IR system with an IR technique
- System feedback function - to obtain conceptual feedback from IR systems to support the user
- Rule function - to control and guide other functions procedures

They found that those bullet items marked ** in the first list were considered to be in common, based upon their analysis of facilitation of an online conference. However, we see from looking at this first list that most of the roles are ones that we would typically expect from an information intermediary involved in project management.

The three cases discussed above exemplify that information management skills, may be applied in a variety of contexts, all involving intermediation. Similar application is also apparent in the academic environment.

Academic environment

Teaching and learning in higher education in recent years has been characterised by a great deal of support for online content delivery. At first glance, this may suggest that that library support for learning is diminished or eliminated by the availability of online resources.

This is to misunderstand the place of the library. It continues to have a wide range of significant responsibilities. These have been articulated in a variety of contexts, for example by SCONUL (1998) as library staff supporting information provision and use by:

- Collection / resource management and development, covering both printed and digital media, with particular reference to obsolescence of electronic systems, digital archiving and preservation (in collaboration with academic staff)
- Resource discovery, including identifying items at document and collection level, and tracking developments in scholarly communication and learning resources
- Metadata management, including developing local architectures for database access, with links to regional, national and supra-national resources
- Information handling skills, training staff, students and other learners to find, use and manage information, in partnership with academic specialists/learning consultants
- Rights negotiation, covering both contracts/licences with commercial suppliers, and inter-institutional agreements
- Learning support, creating and managing an environment for individual and group study, providing personal help to groups and individuals (face-to-face and electronically-mediated) and facilitating the development of learning and teamworking skills among students, including more formalised training and teaching.

There is emphasis on collaboration with academic staff with resource management, which I think that we can extend further in order to express the role of identifying and providing course resources in an information delivery framework that enables contextual resource-based learning for students. With increased emphasis on self-directed learning, the academic role as an intermediary is also more obvious. There will be increasing difficulties in determining where the role of the academic ends, and that of the librarian begins.

There is an increased emphasis on instructional role through formalised training and teaching. This empowers students as end users and consolidates their information literacy.

Areas that are not mentioned by SCONUL, but which I think will see increasing prominence, are:

- Project management (specifically to establish and see through the development with academics and media specialists of the resource frameworks for online teaching support)
- User behaviour identification (analysis of the environments in which discrete user groups seek and utilise information)
- Digital reference service, and the role that a librarian must adapt to in providing such service.

An alternative examination of these factors (Sloan, 1998) sees the continuing need for the intermediary in order to preclude the passive warehousing role of the digital library. Thereby a way is found between the model where librarians are irrelevant because everyone may access information directly, and the 'masters of the universe' model where some type of librarian (cybrarian?) acts as a gatekeeper to society's knowledge, by whom all must pass in order to:

- Obtain help in selecting information (knowing what to know)
- Obtaining information that is transitory and may not be indexed in conventional secondary services
- Obtain assistance in obtaining/understanding information that is highly contextual in nature rather than merely obtaining the information in a textual format
- Maintain the social functions, that exists in a physical library
- Fostering partnerships
- Providing outreach to students

Sloan sees librarians as gateways to the future and to the past; teachers; knowledge managers/workers; organizers of networked resources; advocates for information policy development; community partners; "sifters" of information resources; collaborators with technology resource providers; technicians; and individual information consultants.

Conclusion

You may take issue with some of the specific examples I have outlined, but I suspect that you are in general agreement with the thrust of this material, because I am preaching to the converted. Intermediaries know the value of intermediation but they must be able to demonstrate its value also to end users This message needs to be taken beyond our own cozy fraternity and repeated within the other disciplines.

We welcome input from other disciplines to our own conferences, so that we may hear about how usefully we are serving them. How often to we get ourselves inserted into their conferences - health, law, education, engineering - so that we can demonstrate worth, and instruct on the organisation and structure of, as well as access to, their information resources?

Our own literature tells us often enough that the Web is merely one of many sources and that we are regularly exhorted to involve ourselves in a continuing role in filtering, appraising resources and directing them in the correct context (Chen, 2000). I think most of us realise that. It is the end users who have to be convinced by marketing and performance.

This means that the intangible must be made tangible. Ehrlich & Cash have not been alone in noting that the expertise and experience of intermediaries is often invisible to the consumer, to the organisation in which these intermediaries work, and even to the intermediaries' managers. They see that the valuable services provided by intermediaries, are not made unnecessary by end-user access, and that they have a role in personalising and assuring the quality of information. Will librarians go the way of custom tailors? As with off-the-shelf clothing which is good enough and cheap enough for most, Nerdi & O'Day (2000) pose the question but think not - instead, they detail the role that librarians (like psychotherapists!) have in providing therapy, in this case information therapy - helping clients understand their own information problems. They give numerous examples of what we would call reference query and reference interviews that lead to assistance that technology doesn't provide (refreshing coming from non-librarians).

There is yet to be a generally acceptable substitute for personalised information service - for the knowledge and experience humans bring to a task, even if not in their own area of expertise. Librarians are skilled negotiators, searchers, collators of information, deliverers of useful knowledge, and often the glue that sticks communities of researchers together.

However, their presence is not always obvious, and may be applied to the extent that the information users perceive a self-service. This service is one that is only made possible by preparation such as filtering, selection and aggregation of resources for end users, and information organisation through mechanisms ranging from effective architecture (what we formerly knew in part as the role of those unsung hero(in)es, the cataloguers), to creation of documents with metadata and from the index up.

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ALIA 2000

Proceedings

Education rap: a brief summary of educational implications of material presented at ALIA2000

Michael Middleton

Implications for LIS education

- Delivery
  - Getting the message across
- Content
  - Preparation for which role?

Delivery

- Online learning environment
  - Delivery --- learning?
  - Intellectual property management
  - Quality management

Co-delivery

- Partnerships, collaboration, ...
- There are no library schools (in Oz anyway)
  - Generic information principles
  - Survival ... Critical mass
- CPD
- ALIA
  - 'Registration' online

Intermediation

- Cost
- Trust
  - responsibility, accountability

- Selection
    - Evaluation - validation
- Organised access
- Value

Content

- The ALIA Draft
    - http://www.alia.org.au/governance/committees/boe/policies/core.knowledge.html
    - Broad context of information environment
    - Analysis
    - Strategy
    - Infrastructure

Content (continued)

- ALIA draft
    - Information sources
    - Processing of information
    - Product and service delivery
    - Evaluation

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Proceedings

Virtual services for virtual readers: reference reborn in the E-library

Roxanne Missingham

Introduction

Virtual reference in the modern library is a surprisingly new notion. There original concept of a digital or virtual library evolved from a view that electronic information storage and access was the full scope of service for the new library. The original perspectives of a service oriented to files and 'resource discovery' based on file naming and retrieval algorithms. So why is this significant? In describing the development of the concept of a digital library the underlying service model can provide information on assumptions made about the roles of library users and librarians. The role of reference in digital or virtual libraries can be explored, based on both the original concepts and taking into account lessons learnt for reference in the printed library and the digital.

The early concepts of a digital library were based on a 'seamless' automated access to information without traditional reference services. For example among the early definitions of a "digital library" (sometimes referred to as "electronic library" and "virtual library") are:

- The digital library is not a single entity;
- The digital library requires technology to link the resources of many;
- The linkages between the many digital libraries and information services are transparent to the end users;
- Universal access to digital libraries and information services is a goal;
- Digital library collections are not limited to document surrogates: they extend to digital artifacts that cannot be represented or distributed in printed formats.

Purposes

The purposes of a North American digital library system are:

- to expedite the systematic development of: the means to collect, store, and organize information and knowledge in digital form; and of digital library collections in North America;
- to promote the economical and efficient delivery of information to all sectors of North American society;
- to encourage co-operative efforts which leverage the considerable investment in North American research resources, computing and communications network;
- to strengthen communication and collaboration between and among the research, business, government, and educational communities;
- to take an international leadership role in the generation and dissemination of knowledge in areas of strategic importance to North America;
- to contribute to the lifelong learning opportunities of all North Americans.[1]

The Digital Library Federation's definition is:

> "Digital libraries are organisations that provide the resources, including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital works so that

> they are readily and economically available for use by a defined community or set of communities."[2]

Clifford Lynch defined digital libraries as an:

> "electronic information access system that offers the user a coherent view of an organized, selected, and managed body of information"[3].

Other approaches (including that of Apple Library) posed a concept of the Internet as the biggest library in the world with all the information needed at your fingertips. Key characteristics of these visions were the digitisation of information, its storage and retrieval. Emphasis was given to the development of new searching and resource description methods. The three key roles for professionals were anticipated to be the:

1. selection of material for digitisation, based either of usage or analysis of knowledge content and context, this was replaced relatively rapidly by a view that the mass of new material being 'published' or made accessible though the Internet would answer the information needs of all
2. assistance in the development of searching technology to improve precision and recall
3. the development with research communities or sites offering access to subject defined collections of portals
4. development of a 'MARC lite' form of resource description to enable searching to occur automatically - in the form of Metadata.

None of these alternatives provided a translation of the role of the reference librarian to the new environment. Underpinning much of the discussion that an assumption the 'disintermediation' or ''unmediated' access to information would provide a total solution, in fact the only solution, for the Internet user community. The vision was not totally matched by reality however - Clifford Stoll describes his search for an article, hunting the web for six hours seeking a particular item. After this unsuccessful hunt he turned to his local public library and had the reference to the article within minutes[4]. This indicated some cracks in the foundations of a total automated solution had begun to appear.

The service model for libraries and information access took a new direction with the recognition that the print and electronic environments would exist in parallel. A new concept emerged around 1997/98, of a library spanning electronic and print environments - the hybrid library. It can be interpreted as either a temporary holding pattern in the evolution of digital libraries or a pragmatic acknowledging that many printed materials will not be digitised perhaps ever. Hybrid libraries can also be seen as located on a continuum between the conventional and digital library, where electronic and paper-based information sources are used alongside each other. The challenge associated with the management of the hybrid library is to encourage end-user resource discovery and information use, in a variety of formats and from a number of local and remote sources, in a seamlessly integrated way. The hybrid library should be "designed to bring a range of technologies from different sources together in the context of a working library, and also to begin to explore integrated systems and services in both the electronic and print environments."[5]

The hybrid library should not, then, be seen as nothing more than an uneasy transitional phase between the conventional library and digital library but, rather, as a worthwhile model in its own right, which can be usefully developed and improved.[6] This model contains the natural reference librarian for the print world, allows for the existence of a 'Cybrarian' for the electronic environment but does not yet have a multi-skilled reference service at its core.

Some of the definitions which appeared after this evolution in thinking include Paul Duguid who described a digital library as "an environment to bring together collections, services, and people in support of the full life cycle of creation, dissemination, use, and preservation of data, information and knowledge"[7]. A full understanding of the role of reference (mediated and unmediated) is emerging now but a well-developed service model is still to be articulated. The concepts embedded in the hybrid library and emerging knowledge management field offer the greatest insights at present.

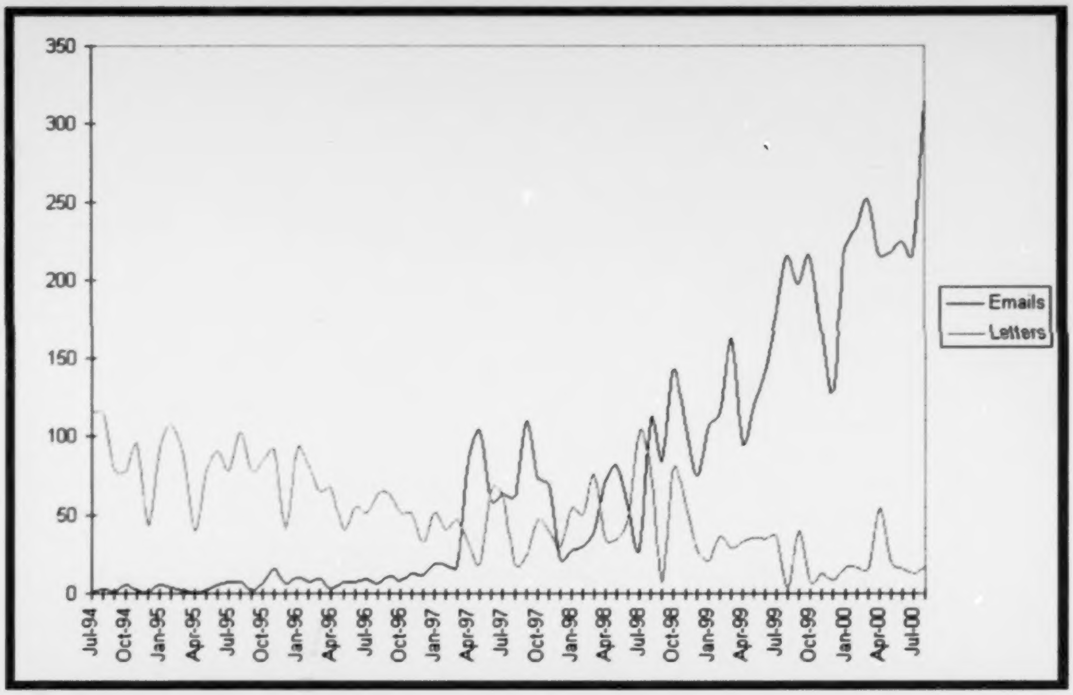
To explore the nature of reference librarianship in the digital or hybrid library this paper explores two perspectives - that of the users or clients and that of the library. The differences and similarities in the expectations of these two groups give an indication of how reference services can operate in the digital environment. They also provide a context for the trials of difference services, which are occurring in the National Library of Australia and in collaborative projects. Three online services - electronic reference enquiry approaches within the library and two collaborative approaches are then assessed against the expectations and as possible service models.

What is digital reference?

In research libraries such as the National Library of Australia users had been provided with reference services in mediated and unmediated transactions. In the print library mediated transactions are the face to face reference enquiries well described in library literature and for which the basic skills have been a core unit in library studies through the professions history. Unmediated reference occurs with the use of tools produced by libraries to enable users to access information or undertake their library research. Guides for readers, such as Pathfinders to subjects, information sheets on searching for types of materials such as journal articles, finding aids for manuscript collections and documentation on searching have been produced to enable users to research effectively. They have been a key component in the information literacy programs of libraries, in some cases being the only part of information literacy or training programs that have been available in all the hours that the library is open.

In the networked environment libraries have make guides and pathfinders available online, often integrated with digital resource lists, such as at the National Library and in OCLC's CORC project. This first stage of evolution of digital self-help or unmediated reference was a natural first step. Guides were already in electronic form, generally as word processing documents and had been tested with the user population and developed over many years.

Mediated reference enquiries in the digital world are those which are expressed in electronic form. The most commonly used methods are email or web form, now widely available in research libraries. All Australian State libraries and the National Library have web forms and email reference services, in the National Library's case dating back to 1994. Research into use of the digital reference service indicates a significant uptake of this medium for transmitting reference enquiries. As an example the increase in electronic reference enquiries shows a consistent pattern:



For unmediated reference services general web site statistics show a steady increase. Differentiating reference products from the web site in general has commenced with detailed report available through products such as Webtrends. For example, the National Library's Reference and Newspaper pages are in the top 3 directly accessed. The Australian newspapers and Newspapers home page are accessed over 10,000 times per month.

User expectations for reference in the digital environment

In understanding digital reference needs of users librarians have been able to take account of research into user needs in mediated on-site reference. There are some major differences in the patterns of enquiries electronically, as well as some differences in characteristics in the networked environment. Perhaps the most obvious is the nature of the users relationship to the library. When users had to physically visit or write to a library they had a relatively clear understanding of the role of the particular library and their relationship with it. If they were studying at a campus the educational nature of their information needs was relatively obvious in their use of the academic library. In a research library the visible collection gave a strong presentation indicating the subject interest of the organisation. Users visiting the library in various organisations were explicitly reminded of the nature and purpose of the library, through location, signage and collections.

Users have experienced library services through a number of different facets of their life. The fact that many users used a wide range of libraries because of the distribution of collections has been well established.[8] While many users visit a range of research and academic libraries to support their on-going information needs, others had different roles with various libraries. In a typical example a user may work in an agency and use that library for work related research, be studying at an academic institution and use that library for their study, use the National Library to supplement other libraries both for academic and work related research and use the local public library for recreation as well as supplementing study materials. Users may well in the print world have 'belonged': from the library point of view to 4 or 5 or more libraries, segmenting their use through visits. The concept of 'My library' is then a network of libraries, each different and potentially confusing.

A networked environment allows a different perspective to be taken to library services. The clues that exist in the physical library to orient users and make clear the services and collections available are much more elusive and complex in the electronic environment. Users also have the opportunity for an immediacy of service, which means their interaction is effectively 'seamless'. In this model reference service is on tap, clearly visible with a turnaround time of minutes rather than hours.

For virtual library services clients are required to navigate around library web sites. The challenge of determining the details of subject, geographic and temporal coverage of the library's collection and knowledge is significant. While the organisations name may give some clues, particularly if the user is a student or on the staff of an organisation, different knowledge is required to use each library's web site. 'Seamless' service may exist in any one library's web site but for a user navigating through more than one library the result is very far from seamless. The

To assess the needs of users both in the networked and print library environment a series of focus groups were conducted at the National Library from July to September 2000. The three groups comprised of post-graduate humanities students from the Australian National University, Petherick Reading Room (Australiana) Readers and members of the Independent Scholars Association of Australia. The focus groups have focused both on expectations of services in the hybrid library.

What do users really want?

The key comments made in focus groups were that users wish to access a mix of print and electronic resources with a new reference service. Traditional mediated reference services answering enquires are seen by the users canvassed as not as critical as they have been. Rather, users expect the reference service to provide them with the skills and knowledge to be able to search effectively themselves in the networked environment. Users recognise that this is very complex and requires constant work because of the changing (and increasing) resources available. Additional complexity is added by the fact that individual libraries offer access through different interfaces, offer different full text and indexes and have different degrees of coverage of their collections in electronic catalogues.

Users expect libraries to offer 'one stop shop', however they recognise that different resources and reference services are provided depending upon the nature of the library. The time required to retrain and reorient for each library was seen as a significant impediment to effective research.

Unmediated reference services together with training emerged as the Cinderellas of reference service in a networked environment. Training, particularly for users inexperienced in the use of computers and also for those accessing new resources. Training was seen as essentially a face to face service in small groups, partly as this facilitates self paced learning and offers flexibility. Information literacy programs based on either automated or online tutorials or rigid programs were considered to be of only limited use. Unmediated online reference services such as lists of resources and guides to library research were seen as very valuable as they could be accessed anywhere, anytime.

In summary users expressed a desire to access resources, both library collections and tools to assist their research (unmediated reference) 24 hours per day in the situation of greatest convenience. Many users study late at night and wish to work effectively without requiring mediated reference services at this time. However, there does remain a need for mediated reference services in training and answering library research enquires.

Counterbalancing this is the experience of the National Library in email and webform enquires. These enquires suggest that for many Australians information is now thought of as completely digital and freely available. They expect library staff to provide resources directly. They appear to have lost an understanding of the library research process and the need to structure enquires for persistent searching. The new model of digital libraries incorporating information literary skills and services requires a long term program to develop the knowledge of our users.

Matching library user and library expectations for digital reference reveals some gaps in perceptions. The main differences are:

Library User Perceptions	Library perception
'Belong' to many users	See users as 'belonging' to that library
Experience information needs anywhere at anytime	See interactions on web site (resource access and unmediated reference) and in library 'space/hours' in mediated reference
Not dependant on individual products but seek aggregated tailored access	Structure information by details of each component eg. Title, publisher

Models for Digital Reference

In the print world libraries answered reference enquires form their collection, the knowledge of library staff and the network of contacts or other libraries developed over years. The principles of such a reference service include a recognition of the role or scope of each library, defined relationships with other libraries; knowledge of the collection strengths and a commensurate knowledge of the strengths of library staff.

While these principles apply in the digital environment the potential scope of collections with Internet access is vast. Users may also come from communities not previously served buy the library, but for whom Internet access has enabled the breaking of boundaries of geographic or knowledge isolation.

These complex issues have led to the development of collaborative models of digital reference services. These models can build upon the distributed strengths of libraries and their ready connectivity. Some of the models that have emerged can be seen in the Collaborative Digital Reference Service; State/National Library Cooperation; CORC and subject portals

Collaborative Digital Reference Service

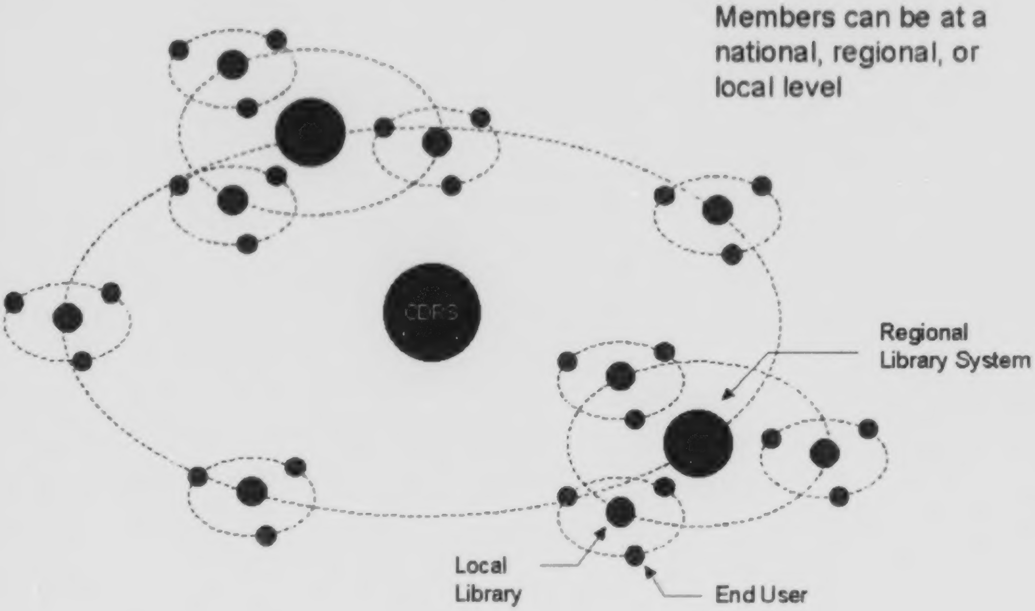
The National Library is participating in an initiative developed by the Library of Congress, the Collaborative Digital Reference Service. The participants (eight from the USA, National Library of Canada and National Library of Australia) are taking part in a pilot project to test the provision of professional library-quality reference service to users any time anywhere (24 hours per day 7 days per week), through an international digital network of libraries.

Phase 1 took place from February to March 2000. The goals were build a system with information on the subject strengths and availability hours of participating libraries for online reference, to enable routing and management of reference enquiries. To help build these profiles all libraries, including the National Library, contributed some general reference enquiries and answers, to indicate their subject strengths. A web inquiry form has been constructed and tested.

In phase 2, due to commence in July, further work will be done with the software including more robust testing of automated routing of inquiries, workflow issues, statistics and benefits of using the service. This phase will include referring current inquiries asked of member libraries to other libraries and will end in August 2000. Administrative issues including legal issues, staff training and service level agreements will begin to be resolved.

The final phase for this year, phase 3, will commence in August and end in September. It will enable detailed evaluation to take place. During this phase we will take inquiries from patrons and will 'stress test' the model, service levels, performance, costs, benefits and management/governance issues.

The project aim is for participant libraries with branch or other local libraries share the answering of reference enquiries based on their areas of expertise, aiming in the long run for 24 hours a day 7 days a week online reference services. A conceptual model of the service is:



Participants in phase 1 and 2 the project include:

- Library of Congress
- Cornell University
- University of Texas, Austin
- Santa Monica Public Library
- Morris County Public Library
- Peninsula Library System (San Francisco area)
- National Agricultural Library (USA)
- National Library of Canada
- National Library of Australia
- Smithsonian American Art Museum

Co-operative Online Research Catalog (CORC)

In 1998 the largest American supplier of bibliographic records, OCLC, announced it would work on the development of a Co-operative Online Research Catalog project. The project comprised 2 parts - first a catalogue of Internet resources, to which the National Library contributed records from Kinetica and secondly a mechanism to share guides (called pathfinders by CORC) to help readers identify Internet resources, material held in library collections and databases primarily based on subjects. An example of a guide that we produce which would be usefully shared with other libraries is 'Australian literature on the Internet'. This guide is of great interest to American universities offering course in Australian and New Zealand Studies. During the pilot phase the National Library tested 3 guides through the Pathfinder system. Consultations are continuing about the publication of guides on CORC.

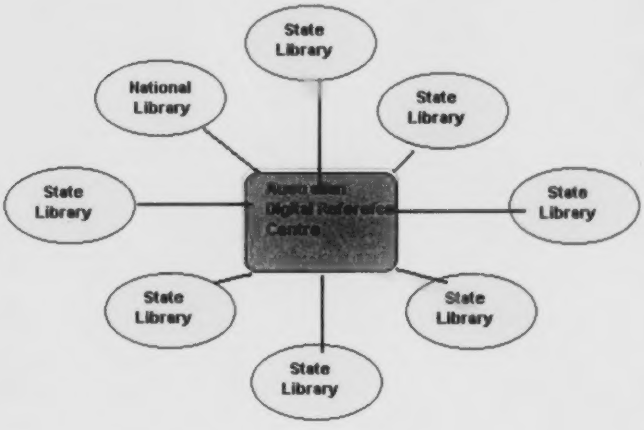
From 1 July 2000 the Internet resources catalogue component of CORC has become a production system, with a new charging schedule. The pathfinder project has yet to reach a successful technical architecture. The National Library produced a report on CORC pathfinders in late 1999 suggesting some development directions that would improve the effectiveness and efficiency (http://www.nla.gov.au/nla/staffpaper/rmissingham1.html). We have provided advice to the other Australian libraries, University of New South Wales, Monash University and University of Melbourne on CORC pathfinders. The University of New South Wales Library also conducted an extensive evaluation and produced a report, which identified similar strengths and weaknesses in CORC. OCLC have indicated they will be reinvestigating pathfinders after the launch of the CORC database, and have developed a proposed list of enhancements based to a large extent on our recommendations.

Council of Australian State Libraries Working Group on Reference Issues

The Council of Australian State Libraries approved the establishment of a Working Group on Reference Issues at its June 2000 meeting, and discussed the possible role of such a group. The National Library is chairing this group. The draft terms of reference are to identify issues in which a collaborative approach will result in better reference services in Australian libraries. Major issues include working towards an Australian library reference collection and virtual reference services. The group will also investigate developments such as call centre technology, and discuss reader research and reference needs, benchmarking and staff competencies. Membership includes Reference Managers from all state and territory libraries and the National Library.

Priorities for 2000 include collaborative work on reference tools, such as reader guides and Internet guides. The benefits of the project will be to enhance access to this information though creation of Australian library guides to resources covering all states and territories and also in reduce the duplication of work done in each library on these guides.

A model of the potential shape of the service follows:



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This initiative has potential to provide an Australian node for the Collaborative Digital Reference Service. It should also provide a model for sharing pathfinders to contribute to CORC.

Subject gateways

A concept of subject access to electronic information has been developed in a new form with the introduction subject portals or gateways. These aim to enable access to resources within a defined area, forming the next generation of tools, a step up from the resource discovery tools of enthusiastic researchers or amateurs. The fundamental purposes of the information portals are:

- Provide for convenient and effective access to information resources (most often Internet resources) through a single gateway
- Description of resources according to agreed standards after selection for quality and subject content
- Identification of information resources to agreed content guidelines (most often subject areas such as agriculture or chemistry).

The National Library has been involved in the development of technical and policy advice (through Debbie Campbell) and in participation through contribution of records. This model of unmediated access offers great potential for sharing resource description for 'one stop shop' subject access.

Issues for future development include integration of access to print and electronic resources, promotion and sustainable funding.

Future Directions

Australian libraries have offered access to digital resources since the early 1970's with the first loading of a database being Chemical Abstracts in 1966. The explosion of access to digital resources is however a relatively recent phenomenon. In the evolution of digital libraries the simple assumptions that collections of resources and sophisticated search engines will answer the worlds enquires is being replaced by new virtual service models.

Collaboration appears to be the key for effective use of information services, both mediated and unmediated. The experiments of CDRS, CORC, Australian co-operation and subject portals provide defined individual projects to test these new models. In looking for future directions, forthcoming evaluations and consideration of how the projects could be amalgamated into larger combined services will be the next steps.

Major issues including the role of the National Bibliographic Database, a possible Australian metadata repository and knowledge management system to create access to implicit knowledge need to be addressed. In all of these the National Library and other Australian libraries need to continue to actively debate tools and services.

Further research on the information needs and patterns of use of electronic reference will provide the basis for future developments. We will be conducting a study of electronic reference use in early 2001 which will enable tailoring of service and exploration of more reference models. For reference service the challenges in virtual libraries are just beginning and will be an area of exploration beyond traditional library walls.

Footnotes

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ALIA 2000

Proceedings

To market, to market to buy a fat pig

Jennefer Nicholson

It is common knowledge in Association circles (and beyond) that journalists start with statistics and then look for the story behind them.

What I want to focus on today is our ability as an Association, and to some extent as a sector to deal with that.

One of the main activities of Associations is as a source of information about the constituency it represents.

Our Association has a number of parties to which it has responsibility in this regard:

- to Governments and policy bodies
- to its members
- to the community

The key to getting the message across is the motive to listen -- and this comes back to the journalism approach of starting with the stats then moving to the story behind. it is much easier to catch attention with a snappy stat than a well-argued and presented position. however, it is essential to have the stats right -- well right enough not to get in the way of a good story -- and to have the substance behind the stats.

It is about establishing credibility.

It is about working from a sound research and data collection base -- facts not anecdotes or one off blockbusters.

It is about having policies which have been developed and endorsed by the sector for the sector.

It is about a strong representational base -- what is our base? -- our current membership, the library and information sector and the over 10 million Australians who use our library and information services? I suggest that we should be looking downstream to include all of those.

And that would of course influence what we determine to be the scope of our information resources and the stories we want to tell from those resources.

We have lots of stats. we have lots of really valuable research reports. What we are not doing is managing that information well to get the most benefit. I can't help thinking of the cobbler's shoeless children. And it makes our job a lot harder not having easily accessible valid information about our sector.

We are not as well-prepared as we should be to take advantage of opportunism -- an important component of lobbying and advocacy.

We do too much re-inventing of the wheel. We loose sight of seminal work.

We shouldn't forget the nuances, the serendipitous connections, the corporate goss.

But we are doing something about all that -- as a priority. Last year the chair of this session undertook a project for ALIA to do a first cut at identifying available library industry statistics for Australia. It included looking at stats collection in Australia, Canada, New Zealand, UK, United

States and the UN; and also by category of library.

I won't go into detail here on each of those. I would though like to pull out some of the key deficiencies found:

- No central collection and/or repository of current statistics on the sector which is easily and publicly available
- Differences or even inconsistencies in the categories of statistics collected within sectors and across sectors
- Few standard definitions of specific operations across and within sectors -- for example what does 'used a library' mean these days
- No nationally agreed performance measures
- Few substantial statistical sequences covering ten years or more
- And because of changes in organisational reporting stats are not necessarily reported or available

Now it may well be that this is not really a problem but I think we do need to think more as a sector about how we wish to present or profile the sector through statistics and research. Every library and information service keeps statistics about themselves for their own purposes. And those stats would be mostly quantitative. In taking a sectoral or national approach we should come up with ways that these can be obtained without placing too much of a burden on participants -- 'a day in the life of...' diary may be one way of doing that. And we need to marry the local needs with the national profile.

To give a very simple example: a campaign slogan for reinforcing the value of the library to the community (and ergo sustaining or increasing funding):

The stats:
In 1998-9 Federal State, Territory and local governments spent a total of $756.2 million on libraries and archives[1] -- these were the National, State and public libraries -- not libraries in schools, universities or hospitals.

Public or local government libraries received $412.1 million directly from local government.

The resident population in Australia in December 1998 was 18 848 016.[2]

To manipulate these into catchy stats: The spending on these libraries, which serve the broad needs of the whole community, therefore represents just over $40 a head or less than $1 a week per person.

The campaign evolves: "How good is that, you get all this for less than $1 a week. How good could it be for $2 a week."

But, we still need to have the story behind it, and that story should be qualitative as well as quantitative.

A European Commission workshop on the collection, analysis and use of library statistics in Luxembourg in December 1997, focused on the need for a statistical basis capable of producing indicators that describe the quality of services. They found:

> "The inherent difficulties in generating consistent and comprehensive statistical information about libraries at the international level were recognised... However, there was agreement that the effort is justified because such data is necessary to inform policy debate. It is a generally accepted fact, that the frameworks and processes which exist in each country for the collation of such statistics often service a wider scope than the library service. ie. that information is collated for different purposes. Therefore, it was the general conclusion of the workshop that the responsibility for developing and promoting the use of consistent definitions in the assembly and exchange of library

> statistics lies with the profession..." (European Commission, 1997). [3]

Participants at the European forum agreed that

> "much of the data comprising the existing and available statistical collections about libraries describe the extent of library services rather than their achievements. Data which was easy to collect refers to available stock and other accountable information such as the number of staff. Producing more information about the quality of the service depends upon developing consistent definitions, and on expending more effort in collecting such information". (European Commission, 1997).[4]

A number of ALIA activities are underway.

National office is now working on developing an ongoing statistical and research information resource or database which will assist the Association in:

- obtaining valid, informative and reliable data
- monitoring and documenting trends and changes over time
- being prepared to take up opportunities as they arise
- informing policies and data developed by and for the sector
- providing a reference resource to members (and fee based service to non members)
- advocating more effectively on behalf of members and the sector in general
- identifying gaps in important information/statistical or research areas

This is a huge project for a small organisation like ALIA. We are not going to collect everything but we do want to know what is where and how it can be accessed.

Earlier this year ALIA and other industry Associations met with the stats working group of the Cultural Ministers Council about statistical and research needs in the cultural sector. Our push was that the needs should be decided in consultation with the sector, something which has not been happening systematically. in addition to the stats series undertaken by the ABS the CMC has commissioned a number of surveys for 2000-2001, including an inventory of statistical data held by State Arts Ministers, The Australia Council and Peak Industry Associations.

Just on the Australia Council -- they have done some interesting research on reading, library use and book buying habits; the findings reinforce much of the data from recent library use focussed research. the Federal Government's Book Industry Assistance Plan program being administered by the Australia Council should provide some further very useful quantitative and qualitative work on attitudes to reading, literacy and book borrowing and buying use patterns.

I would like to conclude with some comments on looking downstream. I don't believe that it is enough for us to be focussing on our sector. We need to look 'out' to the society and community of which we are a part. Social trends and economic indicators, are critically important to us as they characterise the environment in which we operate and to which we should relate. McKay Reports, generational characteristics (next genners, over 50s,) work and leisure trends, income spending, income differentiation, access to information, changing values, our sector's contribution to the GDP -- these are all important to us as an Association. Understanding these indicators is essential for our sector to position itself strategically in the wider society. Planning and policy (and funding) are not just driven by sectoral concern, they are driven, as our Prime Minister so often says "in response to community concern", by economic and social determinants, and by political opportunism.

Our current state is not a shortage of stats or shortage of endeavours. It is now about managing the right information for the right reasons. We need co-operation, agreement, and participation to achieve the maximum mutual benefit.

To buy our fat pig we need market intelligence, and we need to market that intelligence intelligently.

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3 European Commission, Directorate General 1997, *From Quantity to Quality: Collection, analysis and use of statistics for libraries.* A European workshop for suppliers and users of library statistics, Luxembourg, 9-10 December 1997. Telematics for Libraries. http://www.npk.gov.pl/cordis/www.cordis.lu/libraries/en/statwks.html (downloaded 18 October 2000)
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ALIA 2000

Proceedings

Whither Australian Public Libraries

Kay Poustie

The role of the public library in today's technology driven society is again being debated at conferences and meetings around the world over the past years and continues to be debated at this conference.

Doomsayers, mostly wishful thinking local authority CEO's, have been warning public librarians that they will be losing their jobs and that their libraries will close with the advent of the electronic book.

We are seeing the new technology produce books in formats such as the glass book, which are pocket size and transportable as long as the battery to your reader doesn't run out or the power supply doesn't falter.

Why then with all this change and all the doomsayers, is your local public library busier and why are you working harder than ever before if you are a public librarian?

One reason is that wise public librarians have embraced the new technologies, as their university and special counterparts have done. Yet at the same time, they have recognised that the public library is more than a collection of books, more than an information brokerage agency and more than just the place where you go to get a free copy of the latest top seller.

It is interesting to think about the fact that the public library has prospered and grown in countries where democracies have been the form of government for many years.

Britain, the United States, Australia, Canada, New Zealand, the Netherlands and the Scandinavian countries, all with a long democratic tradition, have had strong public library systems and excellent public library services since the beginning of the free public library movement. More recently Germany, France, Italy and Spain have commenced work that will improve the standard of their public libraries. In Asia, Hong Kong has a network of urban and regional public libraries and Singapore must now be leading the field in its provision of public library services through the investment of extraordinary amounts of money being spent on public library building and technology.

It is the essence of democracy that underpins the role of the public library. Political and social equality translated into equity of access and the equality of all to have a right to access information. The public library is the confluence of two of the most significant outcomes of the Age of Enlightenment - the idea of equality and the ordering of knowledge. [i]

The public library is now reaching a new phase in its development. Just as the art of printing was to change dramatically at the end of the eighteenth century, thus enabling the spread of the printed word to a far wider audience, so the information age presaged by the rapid development and widespread use of the Internet has taken our society to a new age. Copious amounts of digital information are available to those who can afford the technology and time to access it.

Recent reports advise that 42.4 percent of households in Australia have access to a home computer and that 13.5 percent of these have access to the Internet. [ii]

To those who work in public libraries, it is apparent that the public library now has a more sophisticated user base as well as another group of users who do not have access to the new technologies and who are dependent on the public library for their electronic information needs.

To meet the needs of these two groups of people today's public librarians need to appreciate that the library as a place is important to many of our clientele. However, the virtual library is an expansion of our role that another group of our clientele is seeking at the present time.

THE VIRTUAL PUBLIC LIBRARY

In the virtual public library, customers are able to browse the catalogues and digitised resources on our web pages from their home computer or in the library at the public Internet terminals. They will also expect to be able to access the catalogues and collections of other libraries in the State, across Australia and across the world.

This presents the opportunity for the public library to utilise the professional skills of its staff in the selection and acquisition of quality electronic information. Whilst some of our customers are becoming adept in the use of the new technology, librarians still have a role in the selection and presentation of quality electronic resources.

However, funding restrictions are inhibiting the ability of public libraries to offer users the selection of quality digital information that is available in the market place and to which they would wish to provide access. I believe that public libraries in Australia, together with the State libraries, need to look at opportunities to purchase digital resources as consortia, or our customers who now have more sophisticated information needs will be disadvantaged.

For those customers of public libraries who do not have access to the Internet or computer resources at home or through the work place, the public library is playing an increasing role in the provision of access to technology. People of all ages and from all sections of the community are now coming to the public library in search of affordable and accessible access to electronic information and the means of accessing it.

This has created an additional role for the public libraries now that they are in the vanguard of the new information technology revolution. People need to be taught the new skills of how to navigate the new information in order to get the knowledge that they have previously obtained from the printed word.

This new role being enunciated for the public library is based on lifelong learning, or learning for life as Chris Batt has so rightly called it, and education. My own perception is that this is not a new role for the public library. The public library has always occupied a place in education since its beginnings as a mechanism to foster reading habits in the urban working classes in the nineteenth century. The self improvement model of the Mechanics Institutes and Carnegie libraries has once again been carried through to today's public libraries.

The role of public libraries in information literacy is well documented in literature and there has always been a conscious effort by public libraries to undertake programmes themselves or to work with other agencies to provide the venue, resources and impetus to ensure that their local communities had access to information literacy training.

In the survey results of *Navigating the economy of knowledge* [iii], it was found that the majority of the Australians surveyed, both users and non-users, would automatically use the library as a source of information if they wanted to 'find something out' and that a major role of the library was in education and lifelong learning.

Neither of these are new roles for the library either. Learning is something that most people do every day. They learn to cook, repair the car, prune the roses, find our way to new places, where the best concerts and art exhibitions can be found and how to undertake crafts, hobbies and special interests. People learn everyday and the public library is where many of them find the materials to enable them to learn new skills that they probably do not even think of as lifelong learning.

However, one of the challenges for public library managers is to encourage staff to recognise that their role has changed. No longer can public library staff ignore the fact that they will be expected to assist the people who come into their libraries in the use of the new technologies. We have a strong role in providing community education in the use of computer programs and in teaching navigation of the Internet and selective use of the resources that it holds.

THE PUBLIC LIBRARY AS A PLACE

Whilst many have predicted that the virtual library will negate the requirement for the bricks and mortar public library, for many people the public library is increasingly becoming the place that reflects the essence of the community that they live in.

The concept of public space where people can go and feel secure, chat with others, browse, watch the world go by, enter without stigma and feel part of their community is essential to the well being of our society. The dearth of such places is now providing an opportunity for the public library to be acknowledged as this public space in the community. A place that it has had for many years without public librarians articulating the role of the public library as the heart of many communities.

Research in Britain by the Comedia Group and Charles Landry has identified the role of the public library as one of the most accessible and open public institutions in the community and as a focal point for local civic life. [iv]

The Comedia Group's study of 1991, *Out of hours*, looked into the social, economic and cultural life of 12 towns in Britain. This study concentrated on town centres as focal points of local civic culture, as transport hubs, retailing, commercial and civic centres and as the places where most unique local identities had been forged architecturally and historically. As a result of this study the group were alerted to the central importance of the public library as the most continuously successful focal points of democratic local life.

An increasing amount of literature coming from Britain talks about the role of the public library in social inclusiveness. Those working in Australian public libraries see that this is reflected in the library every day. Many of the multicultural community are using libraries to access the news from home, learn a language or for some young people, as a place where they can meet their friends.

For many in our community, there is a dearth of places where they can spend time without any specific reason and without any expectation of participation or a monetary transaction. In the public library, there is the opportunity to feel part of a community, whether as an observer or participant. In today's increasingly commercial and security conscious world, there are few places where people can spend time legitimately and constructively without further obligation. For those who have been forced from the workforce, or who have never been in work, the public library is often the place that keeps them in touch with the world through newspapers, magazines and community noticeboards.

The change in patterns of working has also seen a growth in the use of the public library. For many people, telecommuting, the setting up of small home businesses and consultancies and the part time work from home that is enabled by the Internet and upgraded telecommunications systems has meant that public libraries have become their reference point. The new ways of working have also meant that people move in a smaller community closer to their home and begin to rely on local shopping and cafes to seek company and a break from the home routine. A study of 250 California State employees found that telecommuters reduced the extension of their daily activities and stayed close to their home base. [v]

WHAT ARE THE CHALLENGES FOR THE FUTURE OF THE PUBLIC LIBRARY IN TODAY'S SOCIETY?

In Australia, we face many challenges as we look to the future of the public library. Despite the growth in the use of the public library, we need to have adequate statistical information to convince those who are the doomsayers, and those who are the decision makers, of the extent of the role that public libraries are playing in the global information economy.

Added to this, public library managers need to look at new ways of working to make the funding dollar go further. Because the choice for public libraries is not books or information technology, but that they now supplement the printed word with the huge resources available electronically, we need to look at consortia purchasing of both electronic and book resources.

We also need to look at strategic alliances to assist in providing some of the services that we need to offer in the community. Perhaps alliances with the suppliers of training in electronic media or the hardware and software that we make available to the public may make it possible for some public libraries to extend the role that they play in their local community, thus proving to the funders that librarians can actively look for solutions to funding restrictions.

Whatever tactics we may devise on a State by State basis, there is no doubt that we need to work together across Australia to make a case for public libraries. In the light of the funding that the British Government has provided for public libraries to ensure that they become the people's network in the new information age, there is an example to provide to our decision makers of the place of the public library in the new information economy.

Recent decisions by the Government of Singapore to spend Singapore $1 billion to build a new national library, several branch libraries and to upgrade the technology in all libraries, are an indication that that Government believes in the role of the public library in raising the level of public competency in the use of computers and electronic information. Last week in Japan, an announcement was made about placing computers in community centres in order to turn the focus of the country from manufacturing to the new knowledge economy.

Public libraries in Australia can and will play a role in society as the people's access to the new information economy and as valued places in the community. As public librarians we need to articulate the role that our institutions are playing to the decision makers and work together to ensure that our debate is not limited to professional circles. The meeting in Adelaide in May this year that was called by the Council of Australian State Libraries (CASL) was the first positive step in some years.

It behoves those of us who are the managers of public libraries to back this initiative and work towards a sustainable future for public libraries in Australia. We have a vital role to play and need to move quickly to ensure that public libraries remain at the forefront of the community's information network.

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Proceedings

The Market for Information

Victoria Richardson

I have been asked here to talk to you today about my experiences with life after libraries and how my skills in librarianship have contributed to my work as an information designer and publisher. I hope the outcome of my session will be to give you confidence should you also decide to take your excellent skills outside the library walls and apply them to the new and exciting things that are happening because of the changing nature of information and how we deliver it.

As librarians, we traditionally know a lot about information and its patterns. But now our knowledge is becoming more and more valuable to the wider world for one very important reason. As Librarians we have been watching the way people use information for a very long time. We watch people go through the process of discovering that they need to know something. We watch them figure out what might be suitable to answer this need. We watch them go about locating the answer. We watch them sift, sort and assimilate the knowledge that might hold the answer. And we watch them move on to their next information challenge once they have found their answer.

How many of you can relate to this dialog for example: Client asks *Where are the books on aircraft?* We respond with an intuitive signposting activity. We say Our reference section on aircraft is over here - and we guide them to the exact spot and say here they are. Then the Client ponders on the selection. We then give advice on attributes of the information to help the client select the item most likely to give them the kind of information they are after. We say There is a whole range of different types of information here. There are encyclopaedias of aircraft types, directories of aircraft manufacturers, histories of the evolution of flight, and maps of air fields. Client may pick up a text and flicks and flicks and flicks. We then give advice on that items information structure and it's use. Something like - OK in this book, there is an index of manufacturers at the back, but the content is arranged alphabetically by aircraft type etc. And so on the dialog goes until we have satisfactorily assisted our client to find the information most useful to their needs.

It's exactly this scenario of skills that are making librarians valuable in the world out there today - particularly for digitally and screen based information where established patterns of information design are still being formed. Our skills can help information designer s to direct people to the information most likely to assist them, help readers make the right choice from a menu of items, and make the information intuitive to use and assimilate. Let me tell you how I got into a life outside libraries quite by accident:

When the internet came to town in the mid-nineties, I was working for a progressive federal department who wanted to be one of the early adopters of the internet. Departmental management went directly to the top IT end of town and got the best IT firm to make the website. The imported contracted technical team beavered away for weeks on end taking direction on content from the secretary of the department and finally produced one of those lovely grey backgrounded blue text type sites that read like a departmental annual report - you know, the type of things the departmental secretary loves to talk about, missions, goals, hierarchies, bureaucratic lines of power etc. Not very useful, not very usable, but beautifully coded!

A colleague and I who were in different publishing units of the department at the time, were naïve enough to suggest to the Departmental secretary that more could be done to deliver useful and valuable information about what the department did via the internet, rather than just paint a picture of our activities. We suggested the internet should even deliver the publications, not just say we had them, and that the internet should deliver the information people were always ringing up to find out about, not just say we answered a thousand calls a year on these topics.

Well, you know the proverb of the squeaky wheel - in next to no time we were tasked with the responsibility to overhaul the site, plus, instigate a devolved framework that meant people who were producing the information - that is the publications people, the public affairs and library sections - were responsible for ensuring that information was produced for the web site in a timely manner. This was a novel concept back then when IT sections of departments had control over everything that faintly resembled anything technical. It was a tough call, but we did it, and our department was one of the first to have a user-focussed entry to a departmental website. We had looked at our department from the outside, and made navigation and information discovery routes into the content based on what our audience required, and not on how the department was structured. During this time, I needed to buy in assistance to html the many publications I had waiting to go onto the site. Since you just couldn't look up HTML publishers in the yellow pages at that time, my colleague and I visited a number of people.

We saw graphic designers (who could produce marvellous graphical displays for onscreen consumption that wouldn't download in a lifetime of Sundays).

We saw techo HTML programmers (who could produce wonderful code but didn't have a clue about usability, navigation and information architecture and structure) and we saw a range of other professionals and then finally came to the conclusion that there was a niche in the publishing world for people to design information for the onscreen environment that other average type people could really use. And so this is what I do now. I use my knowledge and skills in information to help design content that is usable and useful to the reader in a screen-based environment.

I often think of the book model and how our traditional images of linear information don't apply to the digital world. A book is discrete. You can tell a lot about a book just by looking at it - it's thickness indicates something to you, it's covers and type of coverings give us more clues. It has a clear title page, connections to the larger organised world of information through the verso.

We recognise that a table of contents will usually appear at the front and an index at the back, and that these things are good finding aids when they have pages numbers attached to them that actually reflect the content on the pages in the book. Once inside the book, we navigate through it by recognising that the content is divided into chapters, and that chapters have headings that organise the content into themed groups. Headers and footers, page numbers and the like are other aids that allow us to understand where we are in relation to the rest of the content. There might be summaries of the content, side text or highlights or boxed text that point out important content, and there are references and footnotes for additional information. The quality of the writing and printing are also good clues.

We intuitively know how all these things fit together to make a package of information we can understand. However, how does onscreen content work when many of these signposts are missing? What and where are the clues to help readers assimilate material from screen based information? Most people, particularly in the IT industry, do not have the skills, time or interest needed to understand and effectively structure information in ways that readers understand.

Librarian skills are invaluable to those companies like mine, who work with already created information, and whose expertise is in re-crafting a clients information so that it works just as well or even better on a screen than it does in the static medium of paper. Now here's another area where librarians can use their existing skills in the world outside libraries.

Librarians are effective information finders. We look at a suite of knowledge, in a book, on a shelf, in a catalogue, and know what combination of skills we need to put together in order to use that suite of information effectively. We know we use different searching and discovery skills for different types of information, and even the different mediums - for example we use different skills to search an online database than we use to search a card catalogue.

Many people who are creating information today, are unaware that readers bring different search and discovery skills to a screen based interaction than they do to a paper based interaction. How many of us have had frustrating experiences searching and locating web based content, and yet can effortlessly locate that proverbial needle in a haystack piece of information in a library full of books? Authors and publishers are finding out that you can't just take a piece of knowledge structured and written for paper and plonk it on a screen and expect readers to approach it the same way as they would have on paper.

A good example of this is some recent work we did for dept of defence in the lead up to y2k. Defence had many groups monitoring the upgrading and testing of technology in preparation for the y2k. They had databases full of information, but unfortunately, the people managing the databases were kept busy answering the phone all day because people kept ringing them up to find out how y2k ready their section or whatever was. What they wanted from us was a better way to keep up with the dissemination of y2k reporting. These databases were big long lists of things, and you could report by equipment type, by defence location, by preparedness etc. But these databases were so big, with so much information in them, that the big picture was really hard to grasp.

The answer they were looking for was not just to give all and sundry access to the database. When they asked us for a solution, we went to work in discovering the types of questions people were asking and how they wanted to use the information. In the end, we devised a database to web application for their intranet that was based on geographical location and showed y2k readiness on a whole range of levels as you drilled down through a series of maps.

Each defence installation was plotted on a map and each piece of equipment was given either a black flag for y2k ready or a red flag for y2k not ready. When we loaded this onto the defence intranet, there were two immediate benefits. Everybody could firstly quickly identify a defence location by clicking initially on a state map, then region map, then area map right down to where the installation was located. And then secondly they could simultaneously notice the y2k status of the state, region, area or installation as they clicked down the hierarchy by the colour and amount of flags that were displayed. It was so simple in design, it broke down volumes of complex information into useable bite sized chunks. Librarians are amongst those in the international arena heading this push for 'usable' information designed specifically for the screen. Librarians and other information specialists like editors for example, are becoming more prolific in their advice relating to organising, structuring and writing for screen based works.

From my experience, information professionals are saying things like: we know people scan a screen for keywords rather than read paragraphs of text so if writing for the screen, please use writing techniques that emphasise rather than hide ideas - like bullets, short paragraphs and emphasised words. I know Librarians are saying: look at your access schemes when devising an onscreen document.

If you are using headings from your document as menu items, make your headings clear in their intent. If your are using classification schemes, make them consistent and uniform - choose schemes readers are familiar with such as alphabetical arrangements, chronological arrangements or topic related. Arrange your information in recognisable hierarchies - broad and shallow or narrow and deep. But be consistent. And remember that not everyone is looking for the same thing, or searches in the same way.

A librarians advice on how people might approach the information, ultimately assists in the provision of the correct type of information design. We know that readers require different functionality from their onscreen material depending on if they are using known-item searching techniques, exploratory searching techniques or a full scale comprehensive search. My company helps organisations make digital virtual libraries by scanning their information captured in hardcopy and releasing it into a digital environment, usually on cd rom.

As well as keyword searching, our virtual libraries use traditional library finding tools such as author, title and subject lists, and use hyperlinking to connect the content with the lists.

This way, we can cater for those people who prefer to exercise their known searching skills in a familiar environment as well as cater to those advanced users who understand and can effectively use Boolean searching techniques in a digital context. Librarians make good usability advocates. The science of usability engineering is developing a prominence as it requires specialists with a sound knowledge of the way readers interact with a body of knowledge. Usability engineers, and the most famous and outspoken in recent times is Jacob Neilson, ensure information is accessible - on the macro level of information design - that is the way the information is intellectually structured and physically designed on the screen, right down to the micro level of knowing which fonts are good screen fonts and which combination of design techniques can assist an onscreen reader overcome all the bad things about reading on a screen - the flicker, the emitted light and the screen density. As documents online become longer, ease of information discovery becomes more and more important for the retrieval of the information. I consider myself to have the skills of a usability engineer through my association with librarianship. Librarianship is more about accessibility of information these days than it is with the guardianship of knowledge. Usability is all about making information discoverable. Librarians have the ability to contribute to the development of usability standards by thoughtfully developing and building on traditional information techniques.

For example, I am currently lobbying the concept of a digital verso as a standard for onscreen publishing. The verso has seemingly been forgotten in the race to publish onscreen, I think because the people doing the publishing have not been aware of it's value.

When people publish they usually think of the content - the chapters and the text. The verso - which connects the content to the larger information world and contains things like the isbn, publishing details and copyright information, is just as important to an onscreen document as it is to a printed one.

Indexing is another areas where our skills are in demand. Related to this is metadata application. A government department recently said to us that they preferred our company because we had librarians involved with metadata application. This organisation didn't believe that an automated approach to metadata preparation was sufficient. And in order to achieve a consistently high quality of metadata, human intervention particularly by librarians as information specialists, was essential. Many librarians working in federal government departments will be aware of the government's online strategy. I see this as a truly magnificent opportunity for librarians to use our information management skills outside the library environment and assist our organisations to deliver information effectively via the web.

Believe me when I tell you many people out there are still coming to terms with the governments online strategy and metadata, and that they simply don't know what they don't know. An offer of a helping hand, or a briefing paper to management might just be the profile building opportunity you need at a time when it matters the most. There are so many other things that make the information marketplace exciting for librarians. Developing standards is one. I have been involved in the development of onscreen publishing standards for the forthcoming commonwealth style manual. Traditionally the domain of graphic designers and editors, the publishing team recognised the value an information specialist could bring by casting the perspective of information use on the process of publishing. Structuring data is another. The exciting future for web delivered information is xml and sgml. Structuring and tagging in markup languages requires similar skills as understanding marc records.

If you have a technical leaning, structured data development is going to be a field of rapid change and exciting outcomes. This will see information truly liberated from it's linear containers.

Structuring information will give even more specificity to information retrieval, and radically change our perception of information construction.

I think the document or book as we currently know will fade in lieu of material produced on the fly from a data store in response to a specific enquiry.

For example, currently, I have a book on indexing and a book on html. I am not really interested in every word in both these books, infact, I probably am only interested in about 25% of each. But I had to buy the whole of each of these books just to get the bits of information I wanted. In the not to distant future, when the content of both these books will be in an xml data store, I can dial up and request information on search engines, and each of those portions of those two books will be returned to me, integrated on the fly, into one single complete text.

This is the future I want to make. I'm glad to be part of it today.

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Proceedings

Flexible Learning Developments

Janice Rickards

What is flexible learning?

"Flexible learning" is a term that can mean different things to different people. Let me start with a description of what it means in my institution.

Flexible learning, at Griffith University, is an educational approach using a variety of student-centred teaching and learning methods, resources and flexible administrative practices that responds to the needs of a diverse student population, enabling them to achieve vocational and professional qualifications and the goals of a university education.

With student-centred learning, students are at the centre of educational decision making processes and the learning environment. Teachers act to facilitate the transition from dependent student to independent (self-managed) learner, one who is more able to make decisions on how, when, where and what to learn, to evaluate the usefulness of learning resources and the effectiveness of their learning as a prelude to further learning. Flexible learning practices play a substantial role in achieving a student-centred learning environment.

The extent to which flexible learning practices are employed in an academic environment will vary depending on infrastructure and availability of resources, the nature of the student population and discipline specific requirements. However, there are a number of common characteristics in many universities' flexible learning approaches.

- **Flexibility of participation and access**
  This occurs when there are multiple pathways to completion of programs and courses, multiple equivalent entry requirements and the possibility of more than one exit qualification. Students may be able to undertake their courses on campus or off campus, inside or outside traditional semester hours.
- **Flexibility with regard to learner control and choice**
  Students may also have choice when it comes to content, for example, choosing the sequence or depth of some topics, depending on the discipline of study. (In some disciplines or professional areas, student choice over content is necessarily limited). The availability of a variety of learning resources can provide students with greater choice over when and where to study. Content is supported with staff-student and student-student interaction, whether mediated face-to-face or facilitated via networking.
- **Flexibility of progression and assessment**
  Students can choose the pace at which they progress, with completion times being shorter or longer than a traditional semester. A range of assessment strategies is available and students may be able to negotiate assessment topics and tasks.
- **Appropriate use of a range of learning technologies and resources**
  There are many information and communication technologies available to support learning and each affords different learning opportunities. The learning context, the nature of student needs and discipline requirements should determine the appropriateness of resources, media and technologies used.
- **Learner support and access to information and services**
  Students may need assistance when entering what is for many of them a new learning environment. Support in the form of orientation, information literacy and study skills

programs, help desks, mentoring programs may be offered.

- **Web technology and flexible learning**
  Many institutions (my own included) have made the use of the world wide web central to their flexible learning approach. At Griffith University, all degree programs and courses offered in flexible mode include some form of web presence to support student learning. The level of presence will vary but a subject may be:
    - web based - where the course is dependent on the content and activities on the web site
    - web enhanced - which improves the learning experience by enrichment and interaction in a way not available through other resources; or
    - web supported - where the web site plays a significant role in the course by providing an alternative means of accessing learning materials and communication channels.

Distance education and virtual university developments

As can be seen from this description of flexible learning, the concept does not necessarily equate to distance learning, (a common misconception). However, there is no doubt that on-line learning can certainly be used in this way and there is much publicity (and hype) about the emerging virtual universities, in which all student interactions are managed off campus/on-line.

In practice, two main models for the virtual university are developing. The first of these is one in which an educational institution uses communication and information technologies (CITs) to provide all conventional services. In the second model, services are unbundled, with some being sub-contracted to other organisations.

A robust example of the first model, the total virtual university, is hard to find, although there are many examples of institutions moving into online education for some courses or programs. These include both commercial arms of traditional universities and the newer providers such as corporate and for-profit universities.

Examples of the second model are more prominent. The much publicised Western Governors University brokers courses that are developed and delivered by over 40 participating institutions.

Just how strong is the virtual university trend? The current state of play is comprehensively described in a major study released earlier this year. In the DETYA published report "The Business of Borderless Education", Stuart Cunningham and colleagues conclude that "notwithstanding the rapid growth of online delivery among the traditional and new providers of higher education, there is as yet little evidence of successful, established virtual institutions, either as Internet-based educational providers or as "hollow" organisations which broker the programs of other educational operations".[1] A similar U.K. review commissioned by the CVCP/HEFCE also throws doubt on the extent to which universities will become 100% virtual, but does conclude that "every institution will need to have some capability in that field and most courses will need, at least, to make use of the web as a resource base".[2]

Drivers for change

Why has the adoption of flexible learning become so pervasive? What are some of the drivers for the significant changes occurring in our universities' teaching and learning agendas?

At one level, these changes can be seen as strategic responses to a highly competitive market place which is being shaped by many factors. These include:

- the globalisation of economies and the need for the continuous retraining of the workforce
- the development of the Information Age with its attendant knowledge explosion, resulting in an emphasis on learning how to learn and lifelong or perpetual learning

- the tendency for governments in many countries to see further education as a private good to be funded on user-pays principles
- the demands for greater access to tertiary education with some flexibility and convenience in attendance, time and place of study entry requirements and learning pathways, and progression
- the development of advanced communication and information technologies which made possible the development of more flexible virtual learning environments.

At a more fundamental level, there are also changing notions of what it means to learn. The move from a teacher-expert paradigm to a student-centred one reflects a view that the latter results in better learning outcomes. The theoretical basis for this view lies in cognitive science research and social educational theory which emphasise the complex and idiosyncratic nature of learning and the part played by personal, social, cultural and political contexts.

The adoption of the "constructivist" framework, developed and largely influenced by science teaching, is based on a premise that knowledge and understanding is individually constructed. Learning is the result of active reflection by the learner and integration of new information into existing concepts and frameworks.

In addition to changing ideas about the psychology of learning, researchers have also investigated different approaches to learning used by students. Two distinct approaches have been identified, with the adoption of one or the other being a function of teaching and assessment strategies. Students can thus be influenced to use a deep or surface approach. The former is characterised by looking for meaning in order to understand, while those students using the latter seek to memorise information.

Given the demonstrated relationship between the approach adopted and learning outcome, with deep learning associated with high quality outcomes, higher education institutions are increasingly emphasising teaching and learning strategies that foster deep approaches.

Students' own views of what constitutes "good" teaching and "good" courses reinforce the need to focus on deep learning approaches. Ramsden[3] describes "good courses" from the students' perspective as those which:

- make it clear what you have to learn;
- get you interested and active;
- provide the right balance of freedom and control;
- give you plenty of feedback;
- assess understanding, as well as recall.

The Griffith University Case Study

Griffith University has long had a commitment to innovative teaching and indeed aspires to a goal of national leadership in this area. Our major strategy to achieve this goal is the development and implementation of flexible learning.

The deeply embedded nature of this commitment is evident in:

- Planning at all levels, starting with the University's Strategic Plan and cascading through other major plans such as the Capital Plan, which includes electronic infrastructure, the Information Strategic Plan and the Teaching and Learning Management Plan.
- Using these plans to drive resource allocations to
  - build the technological infrastructure necessary to support flexible learning
  - develop content for online delivery
  - promote rapid cultural change in teaching practices through staff development. In

particular, the University offers (as of this year) the Graduate Certificate in Flexible Learning which academic staff are encouraged to complete.

- The seizing of the opportunity to build a new campus at Logan as a flexible learning exemplar and a way of building early critical mass in order to drive change across the whole University.

All courses taught at the Logan Campus are offered in flexible mode i.e., all have an online presence. To develop the content for these subjects, the University has established what is by most standards, a large production house called Griffith Flexible Learning Services, which has over 50 staff. GFLS is headquartered at Logan. Teams of instructional designers and graphic artists from GFLS work with academic staff to produce the resources needed.

The Logan Campus was also designed for flexible delivery. All teaching spaces (except for specialised laboratories) have been combined into learning centres which provide flexibility in the use of space and high levels of student computer access.

Since the opening of the Logan Campus in 1998, flexible learning is being "retrofitted" to Griffith's five other campuses. Subject development priorities now cover all campuses and the University is on track to convert all subjects to flexible mode by 2005. Close to 600 subjects will have been converted by the end of this year.

Funding has also been allocated directly to schools for academic time "buy out" - a strategy designed to accelerate course ware production.

Learning centres are also being built on all campuses. From the initial three at Logan, there are now eight on four campuses, with plans for a further five centres. When all 13 learning centres are in place, the ratio of student workstations to EFTSU will be better than 1:10. Currently it is 1:12.

Our flexible learning programs are being facilitated by the implementation of new enterprise systems that will provide academics and students with the tools to operate in the e-world.

Blackboard is the delivery platform that is being installed to manage the on-line teaching and learning process. It facilitates staff-student contact of many kinds, including online access to teaching resources, submission of assignments, and posting of notices. It tracks student usage and can be used on and off campus.

Development is underway to integrate Blackboard with the University's PeopleSoft enterprise systems which are also being implemented.

The impact of these flexible learning developments on the different players involved is variable. For most students, the greater flexibility provided is welcome. Indeed the pressure is there for even more flexibility. But students do not want this at the expense of good teaching practice which continues to be of paramount importance.

Supporting students for flexible learning: the librarian's role

The flexible learning agenda at Griffith is also being supported through an early and aggressive move from print to electronic resources, enhancements to off-campus access arrangements and an emphasis on co-ordinating various support services including information literacy training, help services and learning support

Not only is there scope for librarians to continue to fulfil traditional functions in resource selection and access and information literacy training, but there are opportunities with the new paradigm for strengthening existing or developing new alliances with a number of stakeholders. Librarians have a role to play in the course design and development process. They also have the skills to help manage courseware. Librarians are working more closely than ever with other service providers, including IT staff, learning advisors and student administration services - and what better opportunity to further information literacy objectives, to help embed information literacy skills development in the core curriculum.

Footnotes

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1 CUNNINGHAM, S. et al. *The Business of Borderless Education.* Canberra, Department of Education, Training and Youth Affairs, 2000.

2 VC-NET. Association of Commonwealth Countries, June 20 2000.

3 RAMSDEN, P. The Learner-centred environment. In: Massey, T. Benjamin, ed. *Improving university learning and teaching: proceedings of the twenty fourth international conference, Griffith University, Brisbane, Australia, 5-8 July 1999*. Brisbane, Griffith University, 1999.

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Proceedings

Intellectual Property: Setting the scene for the 21st century: Privacy aspects

Catherine Riordan

Outline

1. What is privacy? Why is it important?
2. Challenges for privacy in the electronic environment
3. Legislative and policy responses
4. The way forward

1. What is privacy?

Privacy is notoriously difficult to define, more often noted in its absence than in its presence. Justice Louis Brandeis of the US Supreme Court 1890 defined privacy as: "the right to be let alone"

"Privacy is the claim of individuals, groups, or institutions to determine for themselves when, how, and to what extent information about them is communicated to others."
Alan Westin, 1966

> *Notes that there is a constant internal adjustment process for each individual member of society as he or she balances the desire for privacy with the desire for disclosure and communication of him/herself to others. Pressures: curiosity of others and processes of surveillance that every society sets to enforce social norms.*

What areas of our lives does privacy apply to? Canadian authors Tapscott and Cavoukian suggest we take a moment to think about our own lives:

> *"Does it matter that you are able to maintain a private life, separate and apart from your public or work life? Are there some things that you want to share only with those closest to you, or with no-one at all? " eg transcripts of poor marks at school or university, suicide attempts, personal bankruptcy, severe depression, extramarital affairs.*
> *"Do you want your friends and neighbours to know how much money you make, or that you never paid off your student loan? What about past brushes with the law? What about the details of your medical history: that you had an abortion ten years ago; - that you're receiving treatment for impotence; - that you're taking Prozac or AZT; - ; that you've had an HIV test?"*

Working in the privacy field, we deal with a number of areas of privacy:

- *physical (body/bag searches, body samples, video surveillance, workplace drug testing)*
- *information privacy: information about you given to or gathered by government and private sector bodies;*
- *genetic privacy: related to both of the above, very important because genetic material is unique to you and if misused consequences can be very grave.*

2. Challenges electronic environment poses to privacy

- In some senses, inefficiency is the friend of privacy.
- Information about you held in a government agency on a single file card in a single location is reasonably difficult to access, unlikely to be sent anywhere else.
- Information held on electronic systems allows far greater access to personal information by greater numbers of people: systems which are networked may allow multiple users access to a record in multiple locations. E-mail allows easy sending of information.
- Developments which have had an impact on privacy in the last 20 years include
    - personal computers
    - database design
    - networks and the internet
    - value placed on information as a commodity
    - entrepreneurial government
- Statistics can be more easily gathered and access to records systems may not be logged. Where data is shared across networks and between agencies, questions of who is the responsible custodian of the data arise: who is responsible for making sure it is accurate, up to date, protected?
- If the systems themselves are not properly secured, hackers can gain access to highly sensitive personal information.
- Data in electronic systems is often centralised, easily searchable and linked across multiple databases. In our experience at Privacy NSW, the more comprehensive and up-to-date your database is, the more people will want to have access to it.
- Technology in other areas has grown to enable easy collection of information (eg video surveillance, internet cookies), storage and analysis of different types of information eg DNA databases.

3. Legislative and policy responses

- The right to privacy is a human right and is recognised as such by a number of human rights instruments, including the International Covenant on Civil and Political Rights and the Convention on the Rights of the Child.
- OECD principles from 1981 lay down basic principles of information privacy protection
- *Overseas Legislation*: Canada, NZ, EU Directive which is now driving legislative change in Europe and outside it, US Safe Harbour agreement.
- *Australian legislation*: Federal *Privacy Act 1988*, ACT Health privacy legislation, and *Privacy and Personal Information Protection Act 1998 (NSW), Workplace Video Surveillance Act 1998.*
- Pending legislation: private sector included in Federal privacy legislation, Victorian Data Protection legislation, health privacy legislation.
- Privacy legislation has posed some challenges for research and Privacy NSW is currently developing a code of practice which will enable access to data for researchers. This is important as will affect NSW state government libraries and museums. Issue is to facilitate research while protecting reasonable privacy expectations of living people and relatives of those recently deceased.
- Impact of privacy legislation on intellectual property: impacts on intellectual property insofar as it contains personal information about identifiable people eg deposited records with a State library which contain information about relatives of the writer.

4. The way forward

- Challenge for privacy agencies is to maintain privacy standards while encouraging government agencies to embrace the benefits of new technology.
- Public have indicated that they don't want ID cards (Australia card) and don't like their data being collected and sold without their knowledge and consent (Axciom).
- Federal privacy legislation has been in force for over ten years now.
- This demonstrates that people working in government need to be constantly aware of their dealings with clients' personal information: complacency can lead to grave and public errors such as the example noted above.
- Emerging areas of work for Privacy NSW include:
  - Workplace drug testing: privacy invasive and often not necessary unless safety a consideration;
  - Psychometric testing in the workplace: what happens to the results? Do employees have to undergo it?
  - Electronic Health Records: Commissioner chairing task force into this at present for Health Minister, issues around health care, universal patient identifiers, etc;
  - Genetic privacy: genetic info provides information not only about the subject but also about their family, potential for misuse; DNA databases compiled to solve crimes risk stock-piling genetic material for uncontrolled purposes.

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Proceedings

Official statistics on the Online Society

Sheridan Roberts

Introduction

It is clear that during the last decade or so the impact of information technology on the Australian economy and society has been significant. In response to a growing need for data on the topic, the ABS has progressively introduced a number of surveys to measure the demand for, and supply of, information technology (IT) goods and services. There are a number of collections now in place and together they cover the activities of businesses, government organisations, households and farms. In addition to specific IT surveys, ABS extracts relevant data from existing datasets or collections. Notable amongst these is the dataset of import and export data based on information collected by the Australian Customs Service.

This paper looks at the current ABS framework for IT statistical work and details the information available from existing sources. In addition, it provides an outline of future work and presents some information on the state of standards for IT statistics.

Current ABS framework and collections

The current IT data framework can be viewed in economic terms as the set of IT goods and services produced, consumed and traded. Output can be classified by the characteristics of the goods and services produced, consumed or traded and the entities involved in those activities.

The ABS produces statistical information on IT from a number of data sources. Output produced from these sources is described below.

Surveys on the production and distribution of IT goods and services (production side)

The latest results from these surveys are in respect of 1998-99. Previous surveys were conducted in respect of 1992-93, 1995-96 and (for telecommunications) 1996-97. From 1998-99, data will be collected every two years.

The production collections are industry surveys which collect industry-specific data on employment, revenue and expenses. Data are collected from businesses in the following industries:

Computer Services
7831 Data Processing Services
7832 Information Storage and Retrieval Services
7833 Computer Maintenance Services
7834 Computer Consultancy Services

Telecommunications
7120 Telecommunication Services

Manufacturing
2841 Computer and Business Machine Manufacturing
2842 Telecommunication, Broadcasting and Transceiving Equipment Manufacturing

2849 Electronic Equipment Manufacturing nec
2852 Electric cable and Wire Manufacturing

Wholesale
4613 Computer Wholesaling
4614 Business Machine Wholesaling nec
4615 Electrical and Electronic Equipment Wholesaling nec

Data releases from these collections are as follows:
8126.0 Information Technology, Australia, 1992-93, 1995-96 and 1998-99 (due for release in October 2000)
8143.0 Information Technology, Australia, Preliminary, 1995-96 and 1998-99
8145.0 Telecommunication Services, Australia, 1996-97 (included in 8126.0 for 1998-99)
8669.0 Computing Services Industry, Australia, 1987-88, 1992-93, 1995-96 and 1998-99.

Information from 8143.0 (1998-99) and 8669.0 (1998-99) is publicly available from the Main Features section of the ABS web site. Main features from all future releases will be loaded to the web site at time of release of the hardcopy version.

Data on IT goods and services traded

ABS compiles and releases information on imports and exports of IT goods and services. Data are sourced from the trade data collected by the Australian Customs Service and from the ABS International Trade in Services collection. Information is released in publications 8143.0 and 8126.0.

Information technology use surveys (consumption side)

Household use of IT surveys

Questions on household use of IT are included in the quarterly ABS Population Survey Monitor and are collectively referred to as the Household Use of Information Technology Surveys. They have been conducted in respect of the February quarter, 1994 and for all quarters in 1996, 1988, 1999 and 2000.

Each year, data for all four quarters are aggregated to produce a dataset of sufficient size to enable production of finer level output (for example, State/ Territory splits).

The data content of the household surveys is of great interest to the user community, mainly because of the Internet component. The surveys collect information on:

- the type and number of households with computers and the Internet;
- details of computer and Internet use -where, how often and what for;
- use of other technologies such as mobiles, pay TV, peripherals, games machines etc;
- inclusion of new home technologies -Internet access through set top boxes and mobiles, webcam, DVD, CDMA phones;
- intentions to acquire home IT;
- barriers to computer and Internet use;
- use of the Internet for shopping and types of goods purchased via the Internet;
- expenditure on goods and services purchased via the Internet and value of online payments;
- barriers to Internet shopping (why Internet users are not purchasing via the Internet);
- other "electronic commerce" such as Internet and phone banking, use of EFTPOS and ATMs;
- the incidence of Internet use for online share trading;
- the use of a range of government services through the Internet; and

- home based work enabled by IT.

Proposed changes to the ABS household survey program will affect the collection of IT use data for households and individuals. The quarterly Population Survey Monitor (PSM), through which the data are currently collected, will be conducted for the last time in the November quarter 2000. In the future, some household IT data will be collected via two new regular ABS household surveys. The *General Social Survey* will be conducted every third year, commencing in 2002, and will probably include a small set of IT indicators questions. Starting in 2003, the *Multiple Purpose Household Survey* will be conducted in the intervening two years and is likely to include an IT topic.

In order to cover the collection gap in 2001, the ABS will add a set of household use of IT questions to the Household Survey of Education and Training to be run from April to July 2001. Information produced should be nearly comparable in reliability to that produced from the aggregated set of quarterly PSM collections. However, the range of data will be somewhat less (restricted to user nominated high priority items). Results are expected to be released in early 2002.

The 2001 Population Census will contain two questions on IT. The questions will be asked of each person in the household and will provide a large dataset able to provide finer regional data and cross classification against a wide range of socio-economic and other variables. The first question to be asked is whether the person used a computer in the last week; the second question is whether s/ he used the Internet. The Internet question will be split by location of use, the choices being home, work or other. Results will be released approximately one year after the Census.

The supplementary topic for the April 2000 Labour Force survey was children's culture/ leisure activities. The survey included a number of questions on children's use of computers and the Internet, for instance, whether they used a computer/ the Internet in the previous 12 months; and where, what for and how often they used a computer or the Internet. The survey also included household level information on computers and Internet access. Results are expected to be released later this year in Catalogue 8147.0.

Data releases from the household use collections are as follows:
8128.0 Household Use of Information Technology, Australia, Feb 1994, Feb 1996 and Feb 1998 (final issue)
8146.0 Household Use of Information Technology, Australia, 1996, 1998, 1999 and 2000 (due for release May 2001)
8147.0 Use of the Internet by Households, Australia, quarterly until November 2000.

Information from 8146.0 (1999) and 8147.0 (current quarter only) is publicly available from the *Main Features* section of the ABS web site. Main features from all future releases will be loaded to the web site at time of release of the hardcopy version.

Publication 8146.0 is provided free of charge to a number of libraries through the Library Extension Program.

Business Use of IT Surveys

The ABS conducted economy wide surveys on the use of IT by employing businesses in respect of 1993-94 and 1997-98. The 1993-94 survey focused on issues related to computer use, while the 1997-98 survey collected a broader range of data with particular emphasis on Internet use by business. The current survey for 1999-2000 concentrates more on the Internet, especially use of the Internet and websites for e-commerce activities. A larger sample size will enable better geographic dissection than available from previous surveys. Items collected in the current survey include:

- penetration of technologies in business (e. g. access to computers, the Internet and websites);
- type of use made of the Internet e. g. email, marketing, purchasing and selling;
- intentions information e. g. in relation to Internet access, web presence;

- barriers and limitations to Internet and website use;
- website features and functionality; and
- the value of Internet sales.

Results from the 1999-2000 survey will be released at the end of this year. From 1999-2000, the survey will be conducted annually and may include rotating topics on IT use.

Data releases from the business use collections are as follows:
8129.0 Business Use of Information Technology, Australia, 1993-94, 1997-98 and 1999-00 (due for release December 2000)
8133.0 Business Use of Information Technology, Australia, Preliminary, 1997-98.

Information from 8129.0 (1997-98) and 8133.0 (1997-98) is publicly available from the Main Features section of the ABS web site. Main features from future releases will be loaded to the web site at time of release of the hardcopy version.

Government Use of IT Surveys

Technology use surveys of general government organisations were conducted in 1993-94 and 1997-98 and were designed to complement the business surveys of technology use. The 1999-2000 collection has diverged somewhat from the business survey and focuses more on outsourcing, procurement and provision of online services.

Results from the 1999-00 survey will be released around the middle of next year. The ABS intends to conduct Government IT use surveys every two years.

Data releases from the government use collections are as follows:
8119.0 Government Use of Information Technology, Australia, 1993-94, 1997-98 and 1999-00 (due for release June 2001).

Information from 8119.0 (1997-98) is publicly available from the *Main features* section of the ABS web site. Information from future releases will be loaded to the web site at time of release of the hardcopy version.

Use of IT by farms

In 1998, a number of IT use questions were included in the Agricultural Commodity Survey (ACS). In 1999, core questions were included in the ACS and a supplementary questionnaire was sent to respondents who reported use of the Internet.

The following items were collected in the supplementary survey:

- where the Internet was accessed;
- how often the Internet was accessed;
- cost of Internet use;
- Internet services accessed; and
- e-commerce information e. g. value of Internet purchases and value of online payments.

Results from the supplementary survey will be released in Use of Information Technology on Farms, Australia, 1998-99 (Catalogue no. 8150.0).

From 2000 onwards, two or three core questions will be included in the ACS in most or all years. The questions cover use of computers and the Internet by farms or farm households.

Data releases from the farm use collections are as follows:
8134.0 Use of Information Technology on Farms, Australia, 1998-99
8150.0 Use of Information Technology on Farms, Australia (due to be released October 6 2000)
8150.0.40.001 Report on use of Information Technology on farms, 1997-98.

Information from 8134.0 (1998-99) is publicly available from the *Main Features* section of the ABS web site. Main features from future releases will be loaded to the web site at time of release of the hardcopy version.

Quarterly Internet activity survey

Because of a strong demand from government and industry users for regular statistics on Internet activity, the ABS has developed a quarterly survey of businesses providing Internet access services. The first Internet Activity Survey is in respect of the June quarter 2000 and was despatched in July this year. Its main purpose is to provide a set of regular partial indicators of Internet activity in Australia. As the survey is a census of all Australian ISPs, it is expected that some quarterly regional data will be able to be produced.

Data items include:

- subscriber details: number and type, churn during the quarter, type of connection, amount paid (ranges), type of access package (e. g. flat rate/ month etc);
- volume measures: online time (minutes) by subscriber type, megabytes downloaded by subscriber type;
- service issues: number of modems/ lines, details of technical support and other services offered, number of business web sites hosted, number of business sites
- with online payment; and
- points of presence: number and location of POPs, number of subscribers per POP, lines available, volume of data sent to subscribers.

The first information from the collection is expected to be released in early 2001 in Catalogue 8153.0. Main features will be loaded to the web site at time of release.

Future work

Information on the knowledge based economy/ society

The ABS has commenced investigation on appropriate statistical indicators to describe the Knowledge Based Economy / Society. An output framework for KBE/S indicators has been drafted and we have started to consult with users over the its final form. We expect to commence publishing information on high priority areas during 2001.

Research work under way or planned

- We plan to examine ways of modelling existing data to produce annual IT industry data.
- Over the next year or so, we will look at the feasibility of measuring the value of Information and Communications Technology in the economy -"ICT GDP".
- Once we have 1999-2000 business use of IT data, we will link unit record data with annual economic census data to try to determine impacts of IT at the firm level.
- We have just completed compiling unpublished data on regional use of IT using a remoteness index to categorise each survey unit (e. g. business or household) to a remoteness category. That work is expected to be presented at the Communications Research Forum in early October.
- We are currently compiling data on human resources in IT to be released next year. Topics will include: persons in IT occupations; Research and Development in IT fields; IT education; skill and training shortages in IT; and children's use of computers/ the Internet.

Standards for information technology statistics

With the development of any field of statistics, a body of knowledge about the subject matter is built and refined. Important elements of that knowledge include the standards which guide statisticians and allow the production of statistics with sufficient conceptual rigour and commonality to allow valid comparison on a number of bases. These include international comparison of key indicators, and comparisons over time, between industries and across regions. It is clear that without guiding standards, attempts to compare data in these ways can be quite misleading.

Even though there has been some work done by the international statistical community to develop statistical standards in the IT field, there are still few agreed standards to guide statisticians. For this reason, it will be some time before official statistics on IT activity will be available on an internationally comparable basis. ABS is working closely with the international community (particularly the OECD) on standards for IT statistics. We were a member of the (now ceased) OECD Expert Group on Defining and Measuring E-commerce. At the most recent meeting of the OECD's Working Party on Indicators for the Information Society, Australia presented work on development of a model international survey for household use of IT and gave papers on our experiences with other IT statistics, especially measurement of electronic commerce and government IT use. In earlier years, we have been a major contributor to discussions on statistical standards for definition and measurement of IT industries and electronic content, as well as IT usage and e-commerce.

For more information

This paper has given only a brief overview of ABS activity in the field of information technology statistics. More information can be obtained from the author or from the ABS website (www. abs. gov. au) as follows:

- Main features of IT statistical releases are loaded to the ABS web site at time of release.
- The ABS website has a theme page on Information Technology statistics. To find it, go to the ABS website; select **Themes** from the menu down the left side; then select the *Information Technology* theme page.
- ABS produces a periodic electronic newsletter called *Science and Technology Update* which appears as a link on the *Information Technology* theme page. The *Update* is free; please contact the author if you would like to subscribe directly.

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Enabling Best Practice Recordkeeping in the Digital Age

Anne Robertson

Thank you for the opportunity to talk with you this morning about the challenges that the digital age poses for recordkeeping and the National Archives of Australia's response to these challenges.

Most of you would be familiar with the Archives as the custodian of the significant records of the Commonwealth Government. The records in our collection trace the events and decisions that have shaped our nation over the past one hundred years. We hold the papers of Governors-General, Prime Ministers and Ministers. We have Cabinet documents, Royal Commission files and departmental records on defence, immigration, naturalisation, security, intelligence and many other issues involving the federal government. Each year thousands of people use the collection to undertake research. They include academics, genealogists, local historians, journalists, students, professional historians and lawyers.

The *Archives Act 1983* requires Commonwealth Government departments and agencies to transfer records that have significant and enduring value to the National Archives so that the public can have access to them. The Act provides for access to any Commonwealth records that are more than 30 years old (subject to certain exemptions).

As you would appreciate the vast majority of records currently in our collection are paper files that predate the digital age. But how are we to ensure that the significant activities and decisions that the Commonwealth government is undertaking today, more often than not conducted and stored electronically, will survive or be accessible to the public thirty years from now? If we don't think about these issues now there will be a yawning gap in Australia's federal record.

In 1998 the Australian Law Reform Commission described the state of recordkeeping in the Commonwealth as 'unregulated' and 'parlous'[i]. Indeed, over the past five years more than half the reports issued by the Australian National Audit Office have commented adversely on the quality of recordkeeping in government agencies.[ii]

This situation has been brought about by a variety of factors including changes in public service career paths and structures, 'multi-skilling', 'outsourcing', and the devolution of managerial responsibility. All of these trends have contributed to a loss of basic recordkeeping skills, procedures and systems and a greatly reduced awareness of the importance of good recordkeeping in the culture of the public service.

So what has been the legacy of this cultural shift?

The introduction of personal computers, networked office environments and new work practices combined with the demise of the Public Service Board, which used to issue recordkeeping guidelines and manuals to government agencies, has created a vacuum. Even when agencies know that they should be doing a better job managing corporate information they do not know where to turn for appropriate advice.

Some years ago the National Archives decided that it had to take steps to fill this vacuum. It made a strategic decision to broaden the scope of its activities to become a standards and policy setter in the area of government recordkeeping, and more particularly, to address the challenges of recordkeeping in the digital age. We recognised that unless we got in at the start and helped agencies understand what records to create, how to create them and how to manage them over time there would be huge deficiencies in government accountability as well as a gap in the federal chronicle that we leave the next generation.

The Archives strategy has been to work in partnership with agencies to ensure good recordkeeping in support of efficient and accountable government. We set about producing the tools that agencies could use to tackle the problem.

This work culminated in March this year with the release of a comprehensive suite of inter-dependent standards, policies and guidelines developed and published by the Archives on its website under the 'E-permanence' logo.[iii] Essentially, we want to work towards having government records, and especially electronic records, that are as reliable and durable as if they had been carved in stone.

The basis of this new approach to recordkeeping is quite simple - recordkeeping should be managed systematically and never allowed to 'just happen'. It is based on AS4390 - the Australian Standard on Records Management - issued as a voluntary code of best practice by Standards Australia in 1996.[iv] AS4390 was developed by representatives from public sector, corporate and academic institutions and is the first national standard on records management to be adopted anywhere in the world. And I am pleased to say that it is now in the process of being adapted as an International Standard.

Having given you a little background on the state of recordkeeping in the Commonwealth and the Archives response to it I'd now like to move on and talk about a couple of our standard setting initiatives designed to help agencies manage their digital information, including that subset that constitute federal records.

The first of these initiatives concerns metadata.

Metadata is often defined as 'data about data'. A more helpful definition might be 'structured information that describes and/or allows us to find, manage, control, understand or preserve other information over time'.[v]

Of course metadata is simply a new term for the type of information that archivists, records managers and librarians have always collected to describe and control records and other information resources. Applying this new jargon, a traditional paper file is a 'metadata encapsulated object'. The file contains records and the file cover captures information about those records - what they are about, who used them, when they were used, what access restrictions apply to them and so on. In short, their context.

There are two types of metadata that the National Archives has become actively involved in developing and promoting - resource discovery metadata and recordkeeping metadata. Recordkeeping is of course the Archives core business. But people often express surprise when they learn that the Archives has adopted a standards setting role in the online resource discovery area, as this is a field that is very often dominated by librarians rather than archivists. The Archives made a deliberate decision to play a leading role in this area for the following reasons. Firstly, government business is increasingly being conducted online and it is our job to ensure that adequate records, including adequate metadata of such transactions, are created. Secondly, with the trend towards making government information available online, it is certain that much of this information will also exist as records of one sort or another. If we are developing a recordkeeping metadata standard for government it makes no sense for there to be a totally separate and unrelated metadata regime for online resource description. As far as possible government should have an efficient, integrated metadata regime, and this may be difficult to ensure if different agencies are responsible for different, though related, government metadata standards.

As far back as 1996 the National Archives was urging the government to give it the go-ahead to develop a resource discovery metadata standard that would help improve the visibility and accessibility of government information and services online.[vi] Our view was that success in this area could have spin-off benefits for some of the less visible areas of need (such as recordkeeping) by adding legitimacy and momentum to the Archives' policy initiatives. I am pleased to say that this is proving the case.

On 6 April this year, just a week after the launch of the Archives 'E-permanence' campaign, the government announced its *Online Strategy*.[vii] In relation to web-based publishing and service delivery, the strategy requires all government agencies to comply with metadata and recordkeeping standards issued by the National Archives. With respect to metadata, the standard identified in the strategy is the Australian Government Locator Service (or AGLS) metadata standard.

AGLS is intended to standardise web-based resource descriptions and thereby help government search engines accurately and efficiently identify and retrieve web-based resources in response to public queries. The National Archives convenes a cross-jurisdictional expert group, the AGLS Working Group, which advises and assists it to develop and deploy the standard.[viii] The AGLS standard has now been endorsed by all Australian governments at Federal, State and Territory level. It is also attracting considerable interest in other national jurisdictions, most notably New Zealand, Canada and Great Britain.

The AGLS standard is based on the Dublin Core resource discovery metadata standard, but extends that standard with the addition of four new descriptive elements and a number of new sub-elements or 'qualifiers'. These extensions reflect the particular requirements of Australian governments for precise online resource discovery. The four AGLS elements that have been added to the basic 15 elements of Dublin Core are:

- function - that describes the function/s of government to which the resource relates;
- availability - that provides information on how offline resources may be obtained;
- mandate- that refers to the legislative or regulatory basis for the resource; and
- audience - that describes the target audience for the resource.

The set of 19 AGLS elements are listed below according to their descriptive purpose:

- ownership and creators of the resource - creator, publisher, contributor, rights
- intellectual content about the resource - title, subject*, description, source, language, relation, coverage, function*, audience, mandate
- electronic or physical manifestation of the resource - date, type, format, identifier**, availability**[ix]

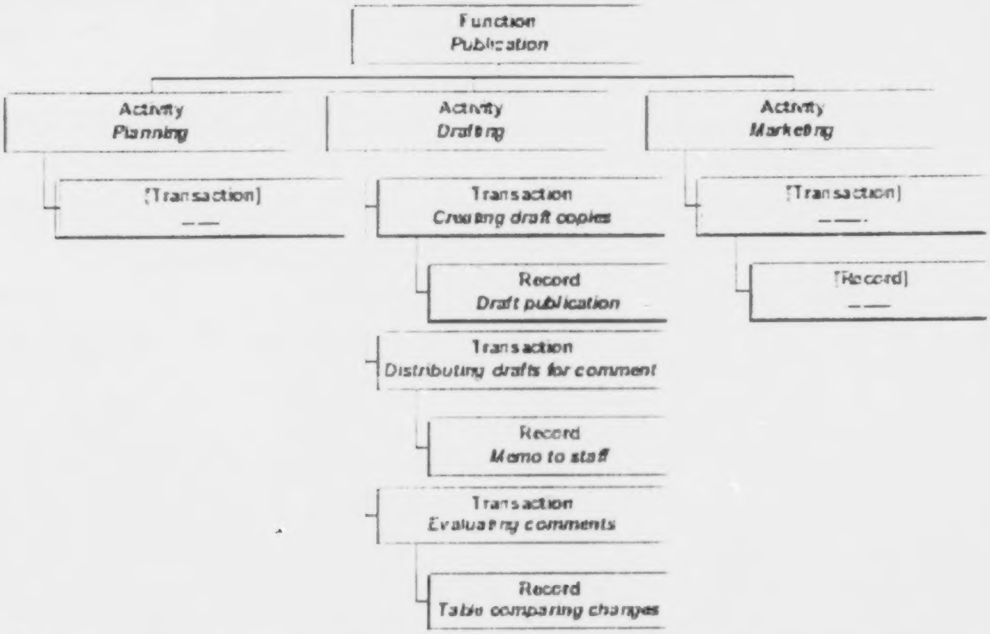
AGLS is designed to be simple, flexible and dynamic in its application. Only six of the 19 elements are mandatory (and these are underlined in the aforementioned list). AGLS metadata can be applied at the point at which an object is created or published online, and it can also be added to and improved as the particular resource evolves or changes over time. It can be used to describe single items or logical aggregations of resources. In addition, agencies can choose how much structure they wish to deploy in their metadata - they can choose to create simple, unqualified descriptions or they can create much richer descriptions using a range of different elements and qualifiers.[x]

The Archives has published a user manual and application guidelines to help agencies understand and implement the AGLS standard.

The inclusion of the 'function' element is one of the more significant features of the AGLS standard. This element establishes a robust link between the world of online resource discovery and the world of recordkeeping. Since the publication of the Australian Standard on Records Management the Archives has been recommending to agencies that they classify all their records by function and activity.

'Functions' represent the major responsibilities that are managed by an agency to fulfil its goals. 'Activities' are the major tasks performed by the agency to achieve its functions. There are often a number of activities associated with any one function. Each of these activities may involve one or more tasks or 'transactions'. 'Records' are often generated as a by-product and evidence of these transactions.

By way of example, 'publication' is a common administrative function across government. Drafting, marketing, planning and tendering are some of the activities performed as part of the publication function. The process of drafting publications, for example, may involve creating draft copies, distributing drafts for comment, receiving comments on drafts, evaluating comments and so on. Each of these tasks or transactions may generate records.



By looking at their business this way, government agencies can better understand the context in which records are generated. They can then allocate an appropriate level of resources to manage their records according to the strategic significance they pose to the organisation.

As part of the E-permanence campaign the National Archives is encouraging all agencies to analyse their functions and activities and use this as an intellectual framework to develop a corporate thesaurus for file titling and retrieval purposes, indeed, for controlling all corporate information resources.

From a government resource discovery point of view business activities or 'functions' are also a useful means of resource classification. While there are a wide variety of different subject thesauruses in use in government, thus making it impossible to achieve national consistency in online resource classification, there is only one comprehensive national functions thesaurus that is recommended for use when creating AGLS metadata.

This thesaurus, the Australian Governments Interactive Functions Thesaurus (or AGIFT), is a high-level thesaurus that covers the functions performed by all three tiers of government in Australia.[xi] It was developed by the National Archives in consultation with representatives from Commonwealth, State, Territory and local government, academics, information professionals and information managers from individual agencies.

AGIFT aims to help people searching government websites to retrieve relevant results by linking natural language terms with their bureaucratic equivalents. It enables people to find information about familiar subjects without needing to know or understand the functional structure of government. For example, search engines deploying the AGIFT thesaurus enable a user interested in government information on 'kindergartens' to retrieve information that has been classified according to the government term 'early childhood education'. At present the thesaurus supports plain English searching of some 300,000 terms and equates these to 26 over-arching terms that cover the functions of all three levels of government and a further 500 or so narrower and related

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terms that describe these broad functions in more detail.

The basic message that the Archives aims to promote is that if government agencies have gone to the effort of publishing information or providing services via the Web, then it is worth linking those resources to some AGLS metadata and using functional terms that can be searched via AGIFT to help ensure that people can find them.[xii]

Apart from the AGLS metadata standard for resource discovery, the Archives has also developed a metadata standard for recordkeeping. Like resource discovery metadata recordkeeping metadata helps describe and locate information. But more importantly, it helps control and manage information in a way that preserves its integrity and authenticity and enables it to serve as evidence of business activity over time. Such evidence is essential for legal and public accountability purposes.

Recordkeeping metadata is designed to:

- uniquely identify records;
- authenticate records;
- document and preserve their content, context and structure over time;
- administer conditions of access and disposal;
- track the history of their use and management;
- facilitate the transfer or migration of electronic records between IT systems;
- restrict unauthorised use; and
- help users find and understand records.

As I mentioned earlier, this type of metadata is not new. What is new is the need for information professionals - records managers, archivists, IT specialists, data administrators and the like - to work together to ensure that the electronic systems we use to conduct our daily business have the capacity to create and capture this metadata. Unless electronic records are created and managed properly in well-designed systems that can guarantee their reliability, durability and accessibility, archivists are not going to have many records that they can preserve for long-term use or that will be worth preserving for long-term use. Nor will organisations have the type of records that are essential for the efficient, effective and accountable conduct of their business.

The National Archives published its *Recordkeeping Metadata Standard for Commonwealth Agencies* in April 1999.[xiii] Like the other initiatives I have mentioned this standard was developed collaboratively - with software vendors, academics, government agencies and other experts. Its aim is to define the metadata that government agencies should capture in their corporate information systems so that these systems satisfy their needs for evidence over time. The National Archives recordkeeping metadata standard consists of 20 descriptive elements, eight of which are mandatory, and a further 65 'sub-elements' or qualifiers that add richness to the 20 main elements.

In developing the *Recordkeeping Metadata Standard*, the Archives was determined to maximise the overlap between it and the AGLS metadata standard. It recognised that a high proportion of resources that should be described using AGLS metadata would be records that are moved from a corporate recordkeeping environment into a web environment, or indeed records that exist simultaneously in both environments. Because both resource discovery metadata and recordkeeping metadata help people find resources in a networked environment, they have a lot in common. Of course, recordkeeping metadata aims to do a lot of other things as well. As such, the Archives view has been that resource discovery metadata should be regarded as a subset of recordkeeping metadata. Under this unified regime, agencies need only create metadata once but can use it many times for different purposes, including records management and web-based information dissemination.

By way of example, the table below illustrates the relationship between the eight mandatory elements of the *Recordkeeping Metadata Standard* and elements of the AGLS standard. As you can see five of the six mandatory AGLS elements (underlined) correspond with the recordkeeping elements:

- agent = creator, publisher, other contributor
- rights management = rights
- title = title
- date = date
- aggregation level = type (aggregation level qualifier)
- record identifier = identifier
- management history = date (part only)
- disposal = [not applicable]

Having developed and issued these inter-related metadata standards the major challenge now is to work with government agencies and the software vendor community to encourage their adoption and deployment, and, as far as possible, to find ways to automate their creation and management. This will require ongoing effort which in turn will necessitate regular reviews and revisions to the standards as we learn more about their practical application. As with any standard, our metadata standards have to continue to evolve to remain relevant and useful.

Nevertheless, we are confident that the Commonwealth government now has a solid foundation of metadata standards upon which efficient and effective regimes for recordkeeping and online service delivery can be built.

Apart from its promotion of metadata standards, the Government's *Online Strategy* also requires agencies to make and keep records that accurately document their public websites over time to satisfy business and accountability requirements and community expectations.

Essentially this is nothing new - under the *Archives Act* Commonwealth agencies have legal obligations regarding the retention and disposal of Commonwealth records. Nonetheless, the dynamic nature of online activities presents special challenges.

The first challenge is to recognise that websites are a form of publication (and are therefore records for archival purposes) and that websites may also generate records, particularly if they provide an interface for the provision of goods and services through the use of e-commerce.

The second challenge is to decide what records agencies need to make of their web-based activities, when to make them, how to make them and how to keep them so that they remain accessible and meaningful as long as they are required.

The Archives has developed a policy paper and guidelines to help agencies address these challenges. The policy paper is available on our website while the companion guidelines are in the final stages of drafting and are expected to be published by the end of the year.[xiv]

Unfortunately we cannot offer agencies easy solutions to meet their recordkeeping responsibilities in the online environment.

Websites today come in many different forms. These range from simple collections of static pages which display the same information to all visitors, through to pages that are created and displayed dynamically in response to specific queries. In addition many websites now do something - they enable visitor details to be captured, online orders to be taken, and personalised information to be displayed based on user profiles. The nature of an agency's site will influence its recordkeeping requirements. The technology that supports websites is also changing rapidly and the hardware and software that an agency uses today to make a record of its site may not be compatible with the tools it relies on tomorrow to access that record.

In the Archives view, the effective management of web-based records relies on a systematic approach that is generally applicable to all records, regardless of format. This approach is based on AS4390, the *Australian Standard on Records Management*.

- firstly, agencies should actively take responsibility for recordkeeping;
- secondly, recordkeeping should be based on a thorough understanding of the specific functions and activities performed by an agency and an understanding of the wider socio-political environment in which it operates;
- thirdly, recordkeeping should be based on a systematic analysis of an agency's need to make and keep records relating to those functions; and
- lastly, agencies should establish business systems and manage records in accordance with these identified needs.

The methodology that we advocate to work through these generic recordkeeping issues is set out in more detail in *Designing and Implementing Recordkeeping Systems: a Manual for Commonwealth Agencies*, fondly known by the acronym DIRKS. It represents the backbone of the Archive's new approach to recordkeeping and is available on the Archives website.[xv]

Using DIRKS in conjunction with the forthcoming *Archiving Websites Guidelines* will help agencies:

- promulgate a policy on making and keeping web-based records;
- assign and document specific responsibilities for recordkeeping practitioners, web administrators and IT staff;
- determine what records the agency must create to satisfy business needs, broader accountability requirements and community expectations and assess and quantify the business risks of not maintaining full accountability of their actions;
- assess technological options for creating web-based records that retain the format and functionality that give them meaning; and
- explore storage and preservation issues to ensure that records of web activities remain accessible over time in accordance with identified requirements.

The Archives cannot answer these questions for agencies. We can provide advice on the steps that agencies should take to address these issues and we can discuss the emerging technological options that may satisfy archival requirements. But ultimately agencies will need to establish partnerships between their recordkeeping professionals, IT staff such as network managers or data administrators, web administrators, and corporate governance personnel such as auditors to work through these issues and develop solutions most appropriate to their business needs and broader accountabilities.

In closing, I hope that this brief presentation has given you an understanding of the Archives role in ensuring that present and future generations have proper access to the services and records of government in the online era. Our intention has been to develop a range of interrelated standards, policies and guidelines that provide government agencies with the intellectual framework to manage their information resources, including their federal records, in an integrated way.

The proof of our success will be the existence of durable, meaningful and accessible electronic records in the years to come.

Footnotes

i Australian Law Reform Commission, *Australia's Federal Record: A Review of the Archives Act 1983*, Sydney, 1998, p. 27.

ii Australian National Audit Office reports can be found at http://www.anao.gov.au/

iii The E-Permanence website can be found at http://www.naa.gov.au/recordkeeping/

iv Standards Australia, *Records Management AS 4390*, Homebush, 1996. This standard forms the basis of the draft international records management standard, ISO 15489.

v Coined by Adrian Cunningham in 'Six degrees of separation: Australian metadata initiatives and their relationships with international standards' delivered to the Netherlands Institute for Archival Education and Research in June 2000.

vi Information Management Steering Committee, *Management of Government Information as a National Strategic Resource; Report on Information Management in the Commonwealth Government*, Canberra, 1996, pp. 242-245. Available at http://www.dcita.gov.au/ogo/imsc/imscrept.htm

vii The website for the Government Online Strategy can be found at http://www.govonline.gov.au/

viii The Australian Government Locator Service home page can be found at http://www.naa.gov.au/recordkeeping/gov_online/agls/summary.html

ix * and ** denotes alternative mandatory elements

x The AGLS standard is defined in the *Australian Government Locator Service Manual for Users*, available at http://www.naa.gov.au/recordkeeping/gov_online/agls/user_manual/intro.html; while practical advice on applying the standard can be found in *Applying the Australian Government Locator Service (AGLS) Metadata Standard in Commonwealth Agencies*, Version 1.0, August 2000, available at http://www.naa.gov.au/recordkeeping/gov_online/agls/guidelines/intro.html

xi Information about the Australian Governments Interactive Functions Thesaurus can be found at http://www.naa.gov.au/recordkeeping/gov_online/agift/summary.html

xii Of the 116 agencies that provided authorised responses to OGO's first reporting round in July 2000 70% expect to have obtained National Archives accreditation to use the AGLS logo on their websites by 31 December 2000. 85% expect to have approval by 31 December 2001. See Office for Government Online, *Government Online Round One Survey Results*, September 2000 available at http://www.govonline.gov.au/projects/strategy/GovernmentOnlineSurvey.htm

xiii National Archives of Australia, *Recordkeeping Metadata Standard for Commonwealth Agencies* Version 1.0, May 1999. Available at: http://www.naa.gov.au/recordkeeping/control/rkms/summary.htm

xiv National Archives of Australia, *Archiving Websites: A policy for keeping web-based records in the Commonwealth Government*, March 2000 is available on our website at http://www.naa.gov.au/recordkeeping/er/web_records/intro.html

xv *Designing and Implementing Recordkeeping Systems: Manual for Commonwealth Agencies*, which was jointly developed by the National Archives of Australia and the State Records Authority of New South Wales, and published as an exposure draft in February 2000 can be found at http://www.naa.gov.au/recordkeeping/dirks/summary.html

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Proceedings

The rediscovered agents of change: librarians working with academics to close the information gap

Sabina Robertson and Shirley Sullivan

Part 1 by Shirley Sullivan

Introduction

There has been a merger of the Library with IT and multimedia education at the University of Melbourne, which has strengthened the already existing collaboration across these units. This paper, and the complementary paper by Sabina Robertson, will be discussing information provision to our customers in the light of this newly emerging entity.

Hybrid Library

A fundamental measure of the quality of an academic library is the richness of the scholarly resources that it makes available to its students and academic staff, regardless of format. The physical library will remain important as a locus for research, teaching and learning. It will continue to house both print and electronic resources, but also function increasingly as a conduit for content, i.e., a logical gateway to its own services and those of other libraries and information providers. The Information Division must continue to use technology to enhance information services for students and academic staff, to take advantage of new information formats, to support new instructional methodologies, and to improve access to all forms of information. In other words, provide a managed information environment, which meets user needs in an integrated and helpful way.

There are at least 5 issues involved in providing this service: content, co-operation, gateways, authentication, and statistics.

Content

Close liaison between the Library and academic departments should ensure that collection and access decisions are based on the academic programmes of the University. With the costs of information resources as they are, we cannot afford any that don't "pull their weight" - we must ensure that we are providing the best resources and services we possibly can within our financial constraints.

We use flyers, demonstrations, web page announcements and seminars to alert (and remind) academic staff and students about our resources. An information librarian co-ordinates our monthly database alerts to showcase new or neglected products. These are prepared by either the publisher or vendor of the product or by a Library staff member conversant with the database. We also ensure that new products entering the market are given a trial. Even though money is tight, and no new titles can be purchased without a corresponding cancellation, we need to make academic staff aware of their existence, so that they can compare the new contender against existing titles. This way we can be sure we are getting the most appropriate resources to meet the needs of the research and teaching staff.

To make decisions as easy as possible we provide evaluation forms on the web, linked to the URL and details of the product being trialed or promoted. There are two Library staff members keeping the web page for these activities up to date and relevant.

Cooperation

Librarians have always had some sort of teaching role in the University, though understated, but in the digital environment this role is becoming increasingly overt and important as we teach students information literacy skills (in the broadest sense) using interactive instructional programmes as well as more traditional means. This increasingly involves forging strategic alliances among academics, Library staff, IT staff and multimedia education staff so that the new Information Division becomes an integral part of teaching, learning and research activities. The Information Division has provided us with a collaborative framework for supporting innovation and creativity in our tackling of emerging technology and successful service delivery issues.

The Percy Baxter Collaborative Learning Centre, opened this year, is an example of this approach. Located in one of the larger Library sites, it is headed up by a former member of ITS. The Centre will form a key element in the Division, using web-based and other multimedia modules to provide students and academic staff with the skills to exploit the new information environment. Together, we teach students how to identify, use and evaluate information, regardless of format.

Gateways

One important way academic libraries add value to the research, learning and teaching activities in our universities is to provide quality controlled subject based gateways for academic staff and students. A subject gateway is a single, focal point on the web for providing access to information of all kinds for that discipline, including print as well as electronic resources. It provides access to Internet information such as electronic publications (including serials and monographs), databases, research projects world-wide, data sources, software, online teaching modules, conferences, teaching departments, research institutes, etc. It may also provide links to library catalogues and document delivery services, both commercial and library collection based.

As researchers rely increasingly on electronic resources, the role of librarians as highly skilled guides to the best available information is only likely to expand. Information needs to be organised and made readily available. Librarians are good at that.

Considerable Library effort is used to provide access through subject based gateways to a selection of resources which meet quality criteria. The gateways guide our customers quickly and effectively to information that is usable, relevant, authoritative and verifiable. Their value lies in the fact that they are selective and quality controlled. They have formal selection criteria and collection development policies, and effort is expended in ensuring regular content updates, link checking, etc. In other words, the gateways are managed in much the same way as the physical collections. In fact, in the digital environment, the selection role is even more critical than it is in the print world. The resources are also subject to a weeding policy much more stringent than that applying to physical resources. Like physical items, they are organised and described in a standard fashion, using standard metadata formats, formal classification schemes and controlled vocabularies and subject structures to ensure ease of use. Browsing access to the resources via a subject structure is an important feature in these gateways. Generally, most people prefer the search option when looking for specific information and the browse option when looking for a wider range of information.

Librarians understand customers' needs and can make informed judgments about the quality of Internet sites. We are, therefore, able to filter the vast amount of information on the web so that only the relevant and authoritative information is provided on these gateway sites. Many of our students are ill equipped to assess the quality of the information resources they retrieve through their own efforts, and academic staff and students are equally short of the time necessary to search for and evaluate information resources. This creates some degree of conflict, as we try to save the time (and sanity) of the teaching staff by providing evaluated resources on our gateways yet also try not to neglect an important teaching area ourselves: teaching students to asses the quality of the resources they find on the web.

Lesley Huxley, in an article in *Cultivate Interactive*, July 2000, (http://www.cultivate-int.org/) reports on the results of a number of European surveys dating back to 1996. These show that users are more at ease with finding their way around in gateways and using the services they have to offer than is the case with the "rest" of the Internet. Users were found to appreciate quality resources: the evaluation and categorisation of resources given by the subject gateways are of great importance to them.

Agrigate (http://www.agrigate.edu.au/) is an Australian agricultural research gateway for quality agricultural sites, principally Australian, but also overseas sites. It was one of the first Australian Internet gateways. Melbourne is the lead institution in a partnership between the libraries of the universities of Adelaide, Melbourne and Queensland and CSIRO. Funding comes from the institutions and from Australian Research Council grants. Library staff and agricultural researchers select resources, using publicly available criteria. These resources are enriched with metadata and are reviewed at regular intervals to ensure their ongoing quality and currency.

Buddy

Buddy is a form of broad gateway in that it is the interface to all our electronic resources, designed in an effort to provide convenient, reliable access to required information resources from the desktop. The resources are selected to meet the learning, teaching and research needs of the staff and students in particular subjects or areas, and evaluated against the usual set of criteria. They include our expensive commercial electronic databases as well as high quality, freely available Internet resources. They are listed both alphabetically by title and also under subject headings related to the faculty structures we support. It is also possible to search for resources by keyword and format. Liaison/branch librarians, called Buddy profilers, maintain the pages, keeping them up to date, and building the Library's virtual collection by adding descriptors and linking the titles to relevant subject disciplines.

To assist information librarians in choosing appropriate web sites for Buddy I have a web site on the Library's Intranet where I alert Library staff to free web sites/resources of potential relevance to their academic staff and students. These I glean from all sorts of places, like newsletters, the *Scout Report*, etc, and conference papers. An online request form has been developed by information and collection management staff in consultation with the Buddy programmer and me so that the information contained becomes the basis of the Buddy record. This speeds up the processes of making the resources available on the interface for our customers.

The use of Buddy as the connection to electronic resources ensures that our customers don't get frustrated using outdated URLs, for example. This ties in with the need for our users to authenticate themselves in order to gain access to our commercial databases.

Authorisation and authentication

Our goal in user authentication and authorisation is to let our own staff and students access information from anywhere at anytime without making the process too difficult for the Library, the information provider or, most importantly, our customers, while complying with the legal requirement of the publisher that the resource is secured against unauthorised access. Some of our most important (and expensive) databases are only available via IP recognition. This denies access to staff and students using a commercial ISP so, after consultation with ITS staff, the Library has purchased a licence for EZProxy. EZProxy (http://www.usefulutilities.com/ezproxy/) is an easy to set up and easy to maintain software tool for providing our staff and students with remote access to web-based licensed databases. Our Buddy programmer has channelled these databases through our EZProxy server to enable access from off the IP range, while still ensuring that users must authenticate themselves. This has been a "great leap forward" in access provision to our customers. While this will lead to some additional telecommunications charges for the Library, it should not be an impossible burden, as the Library is by no means one of the heaviest users of the Internet on campus.

Statistics

Another useful aspect of using Buddy as the access point to all our electronic resources is the ability to retrieve usage statistics. These are not super sophisticated, being basically only hit counters, but they do indicate level of popularity, and value for money. The Buddy Group is currently working on provision of more sophisticated statistics.

It has been interesting to keep an eye on the top 15 or so databases each month. Despite the supposed penchant of undergraduates for full text databases, the research abstracting and indexing tools are up there in the heavily used categories, over a broad range of disciplines. *Web of Science* usage statistics show a steady movement up the ladder from number 14 or so when we first acquired the database to number 5 in the top ranking titles at the last viewing. The figures from ISI show usage of this database doubled in the first 9 months of access.

Promotion of the Library

Academic libraries are now required to demonstrate our value to our institutions, particularly in an atmosphere where even quite senior university staff appear to believe that "everything is free on the web". We need to be more articulate and draw attention to the ways we do indeed add value to our institutions. One means we are using to counter this erroneous impression and demonstrate our value is to take advantage of the opportunities offered by a number of our vendors to place our logo or some identifying text on the webpage our staff and students reach upon authentication. We have added our logo or text to many of our databases and are continuing to negotiate with other vendors to do the same thing with their databases.

We are working towards integrating Buddy resources into our webpac in order to provide a one-stop shop for our customers for all our resources, whatever the format. An added benefit to putting our electronic resources into our webpac may prove to be knowledge on the part of our customers that we are providing these resources, as they are used to viewing the catalogue as a guide to the resources we provide for them.

Conclusion

What I hope I have achieved in this paper to give a brief outline of the activities involved in providing our information librarians with the infrastructure on which they can build their publicity and teaching roles. Jointly all the teams within the Division work together to provide our customers with resources they need and the tools they require to use them effectively.

Part 2 by Sabina Robertson

Introduction

Working in a university environment is exciting and stimulating. No, I am not taking any artificial stimulants. Information technology has changed the patterns of scholarly communication - from print to electronic, provided desktop access to a rich resource of abstracting databases, electronic journal and book sources, and web access to a wealth of state, national and international government agencies' documents and information.

Mediated free access to information at time and point of need is embraced wholeheartedly by academics and students. These changes in scholarly communication and the use made of the web is transforming the way in which students retrieve their information and academics deliver their subjects. The shift is challenging many librarians' long held beliefs and notions that their academics and students rely on and need information professionals to access and retrieve required information. Librarians are no longer the sole source of information access.

While some librarians are wary of these changes, and are reluctant to sever ties with some of the traditional library based services, others see information technology as a source for developing new services and links with academics and students. For example, networked and web based databases make it easier for academic librarians to provide faculty based services. Working beyond the library walls encourages librarians to establish personal links with faculty staff. This fosters new working relationships.

Through scanning the literature, it is clear that the academic sector is operating in a volatile environment. At one time the universities may have seemed immune to changes that were taking place in the corporate and government sectors. However, local, national and international forces are contributing to massive organisational shifts in universities. Factors contributing to such changes are: federal government funding, introduction of fee paying students, local and international, establishment of international university consortia, multinational corporations entering the higher education market, and the pervasive attraction of the Internet.

Libraries are just one of many university departments undergoing profound changes in organisational structures, service and resource delivery. Senior administrators see the synergies of merging library and IT departments as a way, not only of reducing costs, but also of providing a coherent infrastructure support to the university community. These mergers have enjoyed a great deal of press coverage. In the United States, for example, consortia of librarians and IT professionals have formed (Tompkins, Perry, & Lippincott, 1998). While the reported dialogues among the different professional groups reveal a range of views and priorities, there is an underlying commitment to provide strong network infrastructure, resource delivery and information support to their academic communities. Evidence of such commitment is the development of the following types of consortia and collaborative partnerships:

- Library consortia.
- International library partnerships.
- Collaborative learning environments such as the Information Commons or Information Arcades within academic institutions. These learning environments allow students and staff to carry out a range of research, individual or collaborative group work at workstations or in training rooms which provide access to a range of desk top software publishing and multimedia design packages.
- Collaborative teaching partnerships - academics and librarians.

As it is difficult to give a comprehensive overview of overseas and national trends, I will provide examples of the different types of collaborative partnerships that are emerging.

The UK experience

In the UK many academic libraries are working on collaborative projects with IT services and academic departments. An example of IT professionals and library staff working on collaborative projects is the Electronic Libraries Programme (eLib). The programme, funded by the Joint Information Systems Committee (JISC) of the UK Higher Education Funding Council, is responsible for several major developments.

Another major development in the UK is the concept of a hybrid library, which has excited the interest of several academic consortia. From scanning the briefs it is clear that each of the projects had quite different aims and purposes for developing a hybrid library that would bring together a range of technologies and sources in the context of a working library.

Rusbridge, the Programme Director, Electronic Libraries Programme, provides a detailed analysis of these projects and the academic institutions' interpretation of a hybrid library (Rusbridge, 1998). The project leaders, name of project and web addresses are as follows:

- University of East Anglia, project leader of Agora [http://hosted.ukoln.ac.uk/agora/]
- University of Birmingham project leader for BUILDER: Birmingham Integrated Library Development and Electronic Resource [http://builder.bham.ac.uk/]
- London School of Economics project leader for HEADLINE: Hybrid Electronic Access and Delivery in the Library Networked Environment [http://www.headline.ac.uk/]
- The University of Northumbria at Newcastle and the Centre for Research in Library & Information Management at Manchester Metropolitan University co-direct the Project HyLife: Hybrid Libraries for the Future [http://hylife.unn.ac.uk/]
- Kings College London is the project leader for MALIBU: Managing the Hybrid Library for the Benefit of Users [http://www.kcl.ac.uk/humanities/cch/malibu/]

One of the key issues to emerge from the reports was the importance of library and IT staff in supporting not only the creation of a digital library, but providing the "human face" to the digital service. In Sloan's assessment:

> *Digital library proponents must consider the role of people (as users and service providers) if the digital library is to be truly beneficial. Technology and information resources, on their own, cannot make up an effective digital library".* (Sloan, 1998, p.119).

Another development funded by JISC is the Distributed National Electronic Resource (DNER) (JISC, 1999). In the UK, there are several major networks serving the needs of higher education, schools, public and health network libraries, and museums, archives and galleries. Key objectives of the DNER are to co-ordinate access to electronic resources across all areas so that people, at all stages of learning, have access to quality assured information sources on the Internet and to stimulate use of high quality digital resources within the academic community (JISC, 1999).

The United States experience

In the United States advances in information technology are also providing the impetus for change in services and resource delivery. The University of Iowa is an example of an academic institution offering new learning and teaching environments for academics and students and, as a result, changing the academic-librarian dynamic. The opening of an Information Arcade was a catalyst in transforming delivery and design of curricula. Library staff working in the Information Arcade discovered that there was a need to provide a reliable, institutionally supported Web server that would allow electronic publishing of academically oriented projects. In 1998, the Arcade staff launched "Bailiwick" which according to Hughes is

> *a space on the World Wide Web where academic passions can be realised as highly specialised and creative Web sites.* (Hughes, Soderdahl, & Zimmerman, 1999, p.405)

Another initiative of University of Iowa is the "Teaching With Innovative Style and Technology" (TWIST) project. The program is designed to train librarians and academics in technology and assist those who wish to incorporate new technologies and information resources into their programs (Hughes et al., 1999, p.407). An outcome of the project has been role change for librarians. Formerly their role, as seen by the academics, was peripheral, being confined to instruction on the use of the library catalogue and providing orientation tours. The intensity of the TWIST collaboration has demonstrated the skills and knowledge that librarians bring to the process of developing web-based subject programs. Hughes states that:

> *...the collaboration is helping to energise and expand course-related instruction at the University of Iowa. And it is indeed transforming instruction at the University. Several faculty members who have never before used instructional technology are now strong proponents of TWIST sites as being essential to their teaching.* (Hughes et al., 1999, p. 409).

Australian experience

In Australia, merging of library and IT departments still creates a great deal of interest. The impetus, as with our UK and US counterparts, is for the library to take a proactive role in forming collaborative partnerships with academics. Queensland University of Technology, University of Queensland and Monash University are examples of libraries providing innovative services and exploiting web based technology to better serve the information needs of their communities. The development of cyberlibraries and portals, and delivery of web based research skills tutorials, are demonstrations of the use of technology to reach student and academic communities at their point and time of need. As with our overseas colleagues, Australian academic librarians are moving into areas that may have previously been regarded as the domain of IT and web specialists. Such change brings tension, not only from within our profession but also in the IT sphere.

University of Melbourne experience

The University of Melbourne is an example of a university undergoing tremendous change. The Vice Chancellor sees the rapid changes in technology and development of national and international academic consortia as opportunities for innovative teaching and research programs. The ambitious *Strategic Plan Perspective 2000* illustrates the Vice Chancellor's commitment to a "superb campus based institution" (University of Melbourne, 2000, p.40). Strategies to support such a vision include:

- *Providing all students studying on campus with access to online education services, modalities and pedagogy equal to the best in the world*
- *Giving high priority to integrating new multimedia and related educational technologies and pedagogy into the creation and design of the curricula* (University of Melbourne, 2000, p.51)

Positioning the Library to meet the Agenda

Catalysts for changing the Library's traditional delivery of services and resources were the empowering and transforming features of information technology, the Vice Chancellor's determination and the commitment of the Vice Principal (Information) to meet the goals set in the Melbourne Agenda.

The Library is now a part of a large Information Division which includes Information Technology Services (ITS), Multimedia Education Unit (MEU), the Library and Audio Visual Services. The new structure is designed to "respond flexibly to service delivery and to be at the forefront of emerging technologies". The Information Division's organisational structure, released in mid 2000, has six major program areas: IT Strategies and Developments, Information Resources Access, Teaching, Learning & Research Support, Corporate Information Systems & IT Infrastructure, Business Management Unit and Client Services.

New services

The focus of the Teaching, Learning and Research Department is to provide services to academic departments and their students to support courseware production, training and development, collaborative learning and research. Staff working in the new team will be drawn from the Library, ITS and MEU. Responsibilities of the team will include:

- Designing and delivering web-based instructional programs.
- Collaborating with academic departments to design, produce and deliver online courseware.
- Developing confidence and expertise of academics and students in the use of multimedia and educational technology, both for authoring courseware and for managing information.
- Working with early adopters across the faculties to model new approaches to course delivery.
- Working with academics to create stimulating educational environments.

Even before the new structure is in place, Information Division staff are already involved in a number of collaborative ventures which are transforming the delivery of services and resources and, as a result, changing the role, and the academics' perception, of librarians.

Percy Baxter Collaborative Learning Centre

The Percy Baxter Collaborative Learning Centre (The Centre), an example of an Information Commons, opened in May 2000. It provides a whole range of learning spaces from fifty six individual PC or Macintosh workstations fitted out with a range of Microsoft Office and other software, including Internet access, through to a room for collaborative project work and two training rooms. In addition to the basic suite of software, some workstations have QuickTime Pro, Dreamweaver, Photoshop, scanners, zip drives and CD burners. The training rooms have created new opportunities for the Information Division staff to become involved in a range of training programs for students and academic staff. The following uses made of the Centre and training rooms indicate the future possibilities of changes in the working relationship between academics and Information Division staff:

- Training rooms were used for "Render farms" for scanning images of the original Olympic site for the Sydney Power House Museum and for holding Geographical Information Systems workshops for academics.
- Information Division staff delivered IT and multimedia courses for staff of the Faculty of Arts and provided Powerpoint training sessions and web publishing courses for academics across the University.
- Faculty of Arts academics booked the Centre so that their students could "sample virtual environments".
- The Centre staff delivered training sessions in the use of scanning equipment for students and academics.

Influenced by developments in services offered by one of our Universitas 21 partners, Toronto University, and trends in other overseas university libraries, the Information Division commenced planning for the Percy Baxter Collaborative Learning Centre, Baillieu Library, in late 1999. The project signalled to the University that the Information Division was serious about providing a major collaborative learning space for academics and students. The project brought together librarians, IT professionals, and multimedia professionals to work out the design and purpose of the Centre. The experience of working with colleagues from formerly separate areas was enlightening. As observed by several authors, librarians and IT professionals have quite different perspectives. (Bernbom, Lippincott, & Eaton, 1999; Biddiscombe, 1999; Lippincott, 1998; Mulvaney, 1997; Tompkins et al., 1998). The goodwill, high expectations of the new Centre, and perhaps the tight timeline, ensured that any fundamental differences in service delivery perspectives did not derail the process.

The appointment of permanent staff, two from Information Technology Services and one from the Library, further illustrates the Division's commitment to blending staff skills, expertise and knowledge from previously discrete work areas into cohesive work teams.

The Centre has already attracted a large group of devotees. It is busy, vibrant, and an attractive place for students and academics to develop their skills in a whole range of software applications for their research projects or assignments. The Centre is the first of several sites to be developed on the Parkville campus.

Collaborative Multimedia Projects: Researching History & the Postgraduate Library

In response to the Vice Chancellor's vision for faculties to develop multimedia learning programs, more academic staff are now involved in developing web-based courses. There is ongoing discussion as to how the courses cater for different learning styles and encourage students to develop information literacy skills. While the involvement of librarians in several multimedia projects is a welcome sign, it has not yet reached a critical mass. It is the Division's expectation that, by the end of 2001, it will become an accepted practice that librarians across all discipline areas will be involved in collaborative partnerships with academics, as is the experience at the University of Iowa (Hughes et al., 1999).

Two current examples of Library staff working in partnership with academics in developing web-based courses are the ***Researching History*** project and ***The Postgraduate Library***.

The ***Researching History*** project has been an invaluable learning and transforming experience for the project team. Working in a different context, the academics witnessed the skills and knowledge that the History Subject Liaison Librarian brought to the project. The librarian was working outside the traditional library environment and worked in partnership with the academics and multimedia specialists in developing curriculum tools for a subject-based online learning package.

Researching History (http://www5.meu.unimelb.edu.au/research_history/sitemap.htm) is currently being trialled in 1st year subject, **Towards 21st Century**, with an enrollment of one hundred and forty students. The web-based module is designed to teach students how to develop a bibliography for a history research essay. The five modules in the tutorial cover: planning a search, identifying sources, locating material, evaluating material and documenting sources. Within each module there are interactive exercises which test the student's skills. On completion of the tutorial students will have gained a thorough understanding of the research process and worked towards developing a bibliography for their research essay.

The Postgraduate Library is a collaborative venture with the Information Division, the Department of Criminology, the Economics and Commerce Faculty and the School of Graduate Studies. Unlike the ***Researching History*** project, it is not part of an assessable subject. The Project brief was based on experiences of a senior academic working with postgraduates undertaking research in the Department of Criminology, and the Subject Liaison Librarians' and Research Consultant's experiences in delivering information literacy classes to postgraduate students. In the Project brief the senior lecturer wrote:

> *..."Working with postgraduates, academics and library staff have found that some postgraduates have limited skills in identifying and obtaining relevant research materials, whether electronic or on paper, while other postgraduates waste time using inefficient search strategies. The problem is becoming more critical as postgraduates are working under pressure to complete their candidature. The increasing complexity and array of electronic resources available via the Internet, further compounds the problem of postgraduates knowing which databases to use. This project will complement the Library's program of information literacy classes and the individual consultations for postgraduate students"* (Tait, 1999,p.3)

The site is a subject web based pathway for postgraduate students undertaking research in the disciplines of Criminology and Economics and Commerce. Features of ***The Postgraduate Library*** include:

- A set of online guides for databases which will advise and direct students in the effective use of electronic resources. Library staff worked in consultation with postgraduate students and academic staff in the disciplines of Economics and Commerce and Criminology to compile the guides.
- 24-hour access to the range of subject specific information resources available via Buddy, the Library's gateway to electronic resources.
- Listing of critical resources in each of the discipline areas.
- Recommended web sites, search engines and directories.
- Email access to subject liaison librarians.
- Use of the software program FLASH to enable smart use of "pop-up" information notes.

Working on the Project was stimulating and at times frustrating, but the experience reinforced the importance of diversity of team membership. Each professional brought skills, strengths and different perspectives that could not be matched if the team were composed solely of librarians.

Librarians working in Faculty: another way of linking with academics

My appointment to the position of Research Consultant at the School of Graduate Studies (The School) was initially a pilot project. The position was created in response to the need for the Information Division to target its services and resources to the postgraduate and research communities.

Working in the School has given me the opportunity to examine the information needs and resource issues for postgraduate students and made me aware of technological barriers that impede a postgraduate student's seamless access to networked information, and the need for library staff to examine issues from a postgraduate perspective. Success of library services is dependent on collaboration among library, IT staff and academics. Such a revelation, though, is not new. The literature over the past several years confirms my experience (Herrington, 1998; Sloan, 1998; Walton, Day, & Edwards, 1996).

From the School's perspective, the Dean and senior mangers now see librarians as invaluable partners in supporting postgraduate students and supervisors with their research. This changed view would not have occurred without the Information Division changing its direction in delivery of services.

Based on the success of the pilot placement at the School, the Information Division has allocated funding for placing librarians part time in the Queensberry Street site, which houses Criminology, Social Work, Public Policy and Early Childhood Development. The funding also created opportunities for librarians in the Medical Sciences, Dentistry and Health Sciences Faculty to provide a co-ordinated information literacy program for postgraduates and a targeted program to visit academics on campus and in teaching hospitals.

Conclusion

Reading the literature, it seems to me that the libraries that are placing themselves strategically to meet the challenges and opportunities will not only survive but also flourish. While some library professionals may have difficulty in seeing the traditional library structures disappear and in working with new groups of colleagues from seemingly unrelated work areas, it is imperative that librarians seize new opportunities.

Working in collaborative teams with academics, IT staff and multimedia specialists is an option for many librarians. It makes sense. Given that academics are publishing course material on the web, are involved in building interactive web based modules, and are looking at different ways of presenting information, it seems that librarians need to adopt a flexible attitude as to how best they can support their academic colleagues.

Critically examining current services, and discarding those that are no longer relevant, is a difficult but necessary process. However, the sophistication of information networks has changed the way in which people use libraries.

In the paper I have provided many examples of libraries adapting to change. Many of the services are experimental. New partnerships have formed and are transforming working relationships. It is exciting times for librarians who act strategically and who work collaboratively with academic colleagues.

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ALIA 2000

Proceedings

Learning to be ourselves, with more skill: Aurora and beyond

Richard Sayers

A Professional's Progress

It is probably reasonable to assume that many, if not most of our number here today 'came' to librarianship by circuitous, and in many cases, serendipitous means. Few people are born to be librarians, and fewer still consider it, or are encouraged to make it their first career choice after school. It is, after all, hardly the role-play of first choice in kindergarten and preschool. And gender typecasting aside, surely only the socially dysfunctional child would forgo playing doctors and nurses to catalogue their picture books, search the internet for an authoritative Sesame Street web site, and play reader advisor to an elderly teddy bear looking for good westerns he hasn't read before? Consequently, I believe few people know deep in their hearts they have the attributes of a good librarian before they enter library school.

However, as I have discovered in library tea-rooms time and time again, nearly everyone knows what it takes to be a great manager! And yet, whatever we may think, it is a fact that most of us arrive in management, and worse still, leadership positions within our organisations with little or no preparation for the role, besides that which we may have brought from elsewhere - past working lives, past experiences, possibly the local P&C.

Like many of my peers, I fell into librarianship. Some in my family say it was an enthusiastic teacher-librarian at primary school who piqued my interest. We developed a mutual respect of sorts, she and I, perhaps because I was the only grade seven who declined to become a library monitor when asked. Maybe she could see my passion for libraries and books transcended the Masonic frippery of badges, and titles, and special privileges. Or perhaps she simply admired my pragmatism - after all, in mid-1970s Queensland, male library monitors attracted bullies as surely as open bottles of wine attract librarians! I may have consumed books at a frantic pace, but I was no wimp!

Later, as a young adolescent, my life's work was to be journalism - preferably the hard-edged, hard-drinking, laconic war correspondent style of journalism still practised at the time by those reporting from exotic locations in far-away South East Asia - places with deliciously decadent French colonial sounding names like Vientianne, Pnomh Penh, Hanoi, and Hue. From these distant steamy assignments I pictured myself filing terse copy by telephone to a distant editor in Sydney, returning to Oz years later with a clutch of Walkley awards, a case of duty-free scotch, and possibly an interesting scar or two.

Fortunately, two enduring role models intervened, gently removing the phrases coup d'etat and "behind us just hours ago - " from my teen vocabulary. Those catalysts were my father, a modest, compassionate, and profoundly sensible middle manager; and, the plain-speaking, eccentric 'junior' counsel, Horace Rumpole, of Chateau Thames Embankment fame. It was they who eventually set me on the road to management in libraries. And it is they, along with other mentors (real and fictitious) who still guide, sometimes subconsciously, many of my responses to the challenges of managing information services and libraries today.

Leaders and/or Managers?

In a recent article for the Harvard Business Review, Robert Goffee and Gareth Jones pose the question: "why should anyone be led by you?"[i] They pour scorn on the prevalence of "'recipe' business books" in which the traits of influential corporate managers are extrapolated to the masses, and the business leaders of tomorrow are fashioned by imitation, rather than sincere personal and professional growth. They identify a variety of qualities shared by inspirational leaders and summarise their effective use in the catchphrase, **"be yourselves - with more skill."** It is a motto I believe should be painted above the doors of every library school building in the world, and digitally reproduced on every library school webpage. Be yourselves, with more skill. It could also be the motto of every Auroran - past, present and future.

I was fortunate to graduate from library school in 1990, the year in which the Internet finally became a reality for many Australian universities. For the library historian, it was an interesting library education - often presenting a nostalgic snapshot of the best of library services in the late 1970s and early 1980s. It did little however, to prepare me for the advent of the Internet, or the occasionally spiteful institutional politics of a regional TAFE college - my first appointment on graduation. And although I was broadly well versed in the pro's and con's of zero base and program budgeting, the crucial skills of strategic leadership and change management were complete anathema. My 'mission', if I could stay awake to achieve it, was to graduate from library school and get a job!

In November 1995, after several years working in a regional university library, it was my great privilege to attend the inaugural Aurora Leadership Institute in Thredbo. As those who have written about the first and subsequent Auroras have noted, the experience is complex, intense, and at times exquisitely personal. It is many separate things to each person, with insights occurring at several levels. I must be honest - at the time, Aurora was not an Epiphany. However, for many in that first Aurora, I think the experience may well have been as profound as St Paul's conversion on the road to Damascus. To some, I feel sure, it gave the personal permissions they needed to launch in new directions, both professionally and personally. For others like me, however, the changes occurred more slowly, and more subtly over time. But changes did take place, and they continue to this day - ensuring I continue to evolve as a manager, and a leader.

For me at the time, Aurora was ultimately about learning to separate the science of management, the elements and skills of which I had been taught superficially at library school, from the infinitely more subtle 'art of management'; specifically, the attributes of visionary and influential leadership. It was also about learning how and when to apply these skills and attributes, and in what ratio. I believe this discretion, once mastered, to be portable - a skill I can carry and apply beyond libraries. At another level, Aurora was also about learning to accept failure as a necessary part of personal and professional growth.

Educating future generations

Without doubt, library educators have always faced testing futures, regardless of the decade. And it is all too easy, with the advantage of hindsight, for the likes of me to look back and pontificate on those skills and competencies I believe should have been imparted to me and my peers in years past. Today the challenge is still about keeping ahead of developments in the profession, but it is complicated by economic realpolitik. On the one hand, library schools must respond to the articulated needs of the profession, for which they are producing the next cohort. And yet, on the other, they must work within the economic rationalist imperatives of modern tertiary education in Australia, and New Zealand. This rationalism, so called, Is exemplified at one Australian library school where I am told library students attend a single semester, generic Introduction to Management subject largely populated by business IT students. As the compromises continue, and the lowest common denominator in management training for information professionals is reached, so too in my mind is the standard of professional preparation diminished.

So what is the solution?

Specialist accreditation

Our first response may be to accept once and for all that the base-level library qualification cannot be all things to all people, and still provide the depth of learning and experience required to manage effectively from scratch. I believe library schools can only be expected to provide new professionals with a broad appreciation of the skills of management and leadership. To expect more is to ignore the realities of our rapidly expanding professional knowledgebase, and declining education dollar. At best, they can provide students with an entrée size helping of management training - the main course must necessarily come later. However, that said, I also believe course content could be more focussed on providing students with practical solutions to real problems, rather than esoteric theory.

I also believe more could be done to anticipate the needs of the future, and equip students with the necessary skills and competencies. No one in my year at library school was made to think through the change management implications of the Internet. We learned for ourselves on the fly, and now pass on our experiences as new graduates enter our workplaces. To a large degree it must fall to the profession to help library educators steer their institutions away from the lowest common denominator solutions of today, and move them forwards in terms of future-proofing their students for the real world beyond library school.

I also wonder if there is now good cause to review the practices of our colleagues in other professions, and build upon the new CPD grading offered by ALIA. I believe there is scope for ALIA to initiate and sponsor a new level of professional training for librarians and information managers - a professional accreditation in Information Services Management. This accreditation could be aimed directly at professionals of limited managerial experience who find themselves working in supervisory and management positions, or who aspire to these positions as part of their personal career plan. It would ideally recognise past learning and experiences, both within and without the profession, and incorporate a course of formalised casual or part-time study (as in the Professional Year undertaken by accountants). This course of study should in turn encompass a range of future-proof and demonstrably portable management skills of value outside the profession, and articulate with the Aurora leadership programs offered by AIMA, and similar programs offered by the AIM. Finally, any professional accreditation program should offer participants active mentoring for the duration of the process, and ideally, beyond. This aspect of accreditation could conceivably build upon existing programs offered by ALIA state branches.

In short, I foresee a formalised structure for the professional development of library and information services managers - one that opens doors beyond the profession, and extends the Aurora ideal: for individuals to lead as themselves, with more skill.

Footnotes

[i] Goffee, R and Jones, G. "Why should anyone be led by you?", *Harvard Business Review*, Sep-Oct 2000, pp 63-70.

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Proceedings

Content for the Future

Jeremy Shearmur

1. Introduction

There is a risk that an academic such as myself, in turning to address issues of concern to librarians, will end up trying to teach grandmothers how to suck eggs. For issues that are just of occasional concern to us, are, for you, the stuff of day-to-day life. What is more, in my experience librarians go out of their way to consult with those whom they are serving, and so are likely to be well aware of the kinds of things that concern us. However, as exemplary as you all may be, there is, nonetheless, some point in my addressing this issue. Not only is there a chance that I may raise concerns that have not struck you in quite the way in which I will present them. But even if the issues that I raise are well-known to you, it may nonetheless be useful to have them voiced by someone else. Let me, therefore, turn to my topic: content for the future (albeit with an apology that what I will be saying will be concerned, for the most part, with issues relating to university libraries).

There is a certain irony to my having been asked to address this topic. For my one (modest) claim to fame is that I worked, for some eight years, as Assistant to the late Professor Sir Karl Popper, the distinguished philosopher of science and social philosopher. And one of the ideas for which he is known, is his argument that we cannot predict the future discoveries: that we cannot predict the future content of knowledge.[1] (There is much more to the argument than this. But one reason is that, if one predicted some new discovery now, it would not then be something that has to be discovered in the future!)

Accordingly, I do not feel bad in having some initial reservations concerning my ability to speak about the future content of knowledge. For that there are problems about my doing this, is not my fault - for there are some good arguments to the effect that it not a task that anyone could perform.

However, this does not mean that, at this point, I intend simply to sit down. For there is, I believe, a fair bit that can be said that is relevant to your (difficult) task of addressing this problem in a practical manner, as librarians. In the rest of this paper, I will offer some suggestions about this task, from the point of view of an academic, and thus of a user rather than a provider of library services.

I will, in fact, have comments of three broad kinds to offer.

The first are some comments about future content as such, and some features of the likely demand for it. These I will offer in the light of my interests in the history, philosophy and sociology of science, and some wider interests in the history of ideas.

The second relate to a current research interest of mine in the field of 'knowledge management', and to some problems about getting access to material that relates to it. This, in turn, seems to me to lead to some wider issues, not least ones which may pose some real difficulties for yourselves, and for your role as guardians of knowledge as a kind of public good in the institutions in which you work.

This, in turn, will lead me on to some further problems; ones which arise most obviously in my role as a member of academic staff who undertakes research, notably in archives remote from the university in which I am normally employed. Indeed, as I finalize this paper - in California - I am encountering exactly the kinds of problems that I wish to highlight; problems which are worrying just because the most obvious ways of responding to them may lead to some particularly problematic unintended consequences for libraries, and for the university community which they serve.

2. Paradigms, Research Programs, etc

One broad problem in considering the likely shape of knowledge in the future - and thus the kinds of demands that are likely to be made upon libraries and information sources - relates to some features of the character and organisation of academic disciplines over time which became clear, in various ways, during the course of the Twentieth Century.

What I have in mind is how a range of different academic writings have brought home to us the way in which activities in a variety of disciplines are structured by broad sets of assumptions; assumptions which typically change over time. The best-known account here is probably that offered by Thomas Kuhn, in his Structure of Scientific Revolutions,[2] in which he tells of 'normal science' as being something conducted within a 'paradigm'. Kuhn's account of normal science was in some ways clear enough: it was an activity of 'puzzle solving', within a framework. Within this, it is assumed that a variety of puzzles can be solved. Such puzzle-solving may, on his account, be seen as the normal activity of the scientist - or the activity of the 'normal scientist' - who has to solve the puzzle in terms set by the paradigm. If the scientist fails, the failure is taken to be his or hers, rather than a failure of the ideas with which he or she is working - much as, say, my failure to solve a complex jigsaw puzzle would be put down to me, not the puzzle.

In his description of a paradigm, Kuhn referred to a variety of different things - including common assumptions within a discipline into which a member of that discipline might be socialized in the course of his or her education, and the way in which a particular scientific achievement might serve as a model for other work. It is also clear that philosophical ideas - like, say, the metaphysical ideas of Descartes, or of Einstein - might serve as such a paradigm, too. What was included within a paradigm might be thought to be too wide for the idea to have any really clear meaning. Indeed, a critic of Kuhn's argued that he used the term 'paradigm' in some twenty different ways.[3] Kuhn was led to develop and refine his ideas in the light of such criticism.[4] However, our concern here is not with the more technical aspects of his ideas so much as with his stress on the manner in which such frameworks change over time, in scientific revolutions.

Kuhn's view was that, gradually, there is an accumulation of unsolved problems, or 'anomalies', and that, over time, paradigms become modified in different research centers, to try to cope with them. Methodological and philosophical discussion then starts to take place, until one reaches a situation that is close to that before the existence of 'normal science': where a discipline is not united by shared ideas. Various new ideas are then advanced - one of which comes, over time, to form a new paradigm, within which new 'normal science' is then conducted. On Kuhn's account, however, the shift from one paradigm to another can hardly be called a rational process.

Kuhn's ideas about scientific revolution are distinctive. They are also controversial, as he seemed to some commentators to be opening the way to a purely sociological view of the development of science: to a view from which it is difficult to make much of the idea of scientific progress. But something close to the kind of picture that he offers is also to be found in the work of other writers - such as Karl Popper, and Imre Lakatos. They preferred the terminology 'research programmes' to Kuhn's 'paradigms', and they stressed the possibility of the rational appraisal of scientific change, and the role that could be played, in the development of scientific knowledge, by the critical assessment of programmatic ideas.[5] Similar views may be found in the work of other writers on the history and philosophy of science, too.

Kuhn himself stressed that he was offering an account just of the natural sciences, although his ideas apply quite closely to contemporary mainstream economics, too. The social sciences and humanities are more pluralistic in their character than are - on Kuhn's account[6] - the natural sciences. But one can identify paradigm-like features within them, too. Something similar could also be said to exist within philosophy, although there, things are in a sense more cyclical, as there is, from time to time, a revival of approaches from the past. Similar approaches to Kuhn's may also be discerned in, say, Foucault's view of how we should understand wider social issues.[7]

The point of raising all this, in the current context, is that it poses a problem for the librarian concerned about the likely character of future demand for scholarly materials. For the discontinuities in developments in science and in the humanities mean that what, at any one period, is treasured, careful work, needed by all researchers at the leading edge of their discipline as soon as it is published, may be of no interest at all with the passing of time.[8] This is likely to occur not so much because it has been superseded in the sense of having been shown to be incorrect, but because of a change in the kinds of things that people are interested in, and the kinds of ways in which they are studied. Much of the detailed work undertaken within previous paradigms is likely to be of little interest to those working within some new approach. There may well thus be little or no demand for it from your clients. But one can never tell what, in terms of more theoretical approaches, might suddenly become interesting.

For example, in a field in which I am currently teaching, moral philosophy, there has recently been a revival of ideas - stemming in some ways from Aristotle - that are often referred to as 'virtue ethics'. This has had two quite striking consequences. First, some recent work by Alasdair MacIntyre has created a new interest in writings within the Thomistic tradition, which - other than by those approaching issues from a strongly Catholic background - had been largely neglected. Second, another contemporary writer, Michael Slote, has argued for the importance of the work of - of all people - James Martineau, whose Types of Ethical Theory was, until recently, the one thing one could always be pretty sure of finding, among the dusty, unsold and unsaleable books at the very back of the philosophy section of used book stores.[9] Indeed, there is a sense in which, in this field, there is now a growing demand for exactly the kind of works that, until recently, librarians would have thought could safely be consigned to off-site compacted book stores. Much the same is true if one considers, say, the impact that has been made by Foucault's work - such that all kinds of oddities, like early Nineteenth Century treatises on prisons, and obscure works on sexual perversion, suddenly became all the rage.

All this, on the face of it, is hardly likely to stop; not least because some of the frameworks within which study is undertaken are clearly matters of convention, and the kinds of issues with which people are dealing, and the kinds of problems that scholars find interesting, are also responsive to changes in fashion, and to changing social arrangements. This, in turn, would seem to have two-fold implications for the librarian.

On the one side, one must be ready for the possibility that there may be new - and unanticipatable - demands for theoretical and concrete historical materials from the past. Even materials that are clearly outdated - in the sense that the perspectives from which they are written are now ones to which no-one is likely to return, and the factual content of them superseded - may become the objects of scholarly activity. On the other, there is a sense in which detailed factual results - as are reported in the natural sciences - may well become things in which there is no interest with the passing of time. That is to say, while we are not, I believe, committed by a recognition of the role played by paradigms etc. to the view that there can be no progress in knowledge, we can, I think, reasonably conclude that human knowledge is not cumulative in a straightforward way. If this is correct, much of the material that at the moment is the most highly prized - and priced - might be something that after, say, ten years could be completely dumped, provided that electronic versions were held at a few sites, from which specific material could be recovered for a suitable fee, should anyone need it.

It is, though, important that the material still be available somewhere. For while it may be of little interest to scientists, historians of science have become aware of the extent to which, in scientific revolutions, people may well come to accept a particular view of older ideas, and of key empirical results, which makes sense of the 'revolution' but which may not do justice to the ideas that people actually held, or to what, say, was actually shown in the various experiments that were undertaken around the time of the change. Accordingly, it may be very important that such scholars can go back to exactly the kind of material in which scientists have no interest at all.

With these concerns in mind, there is also a case for the archiving of materials of all kinds - from working notes, to oral history, to e-mail exchanges, to successive drafts of papers. When I enquired not long ago of a leading economics journal, I was devastated to discover that they did not archive their records at all. That is to say, there was no systematic saving of correspondence, of papers that were submitted to them, of referee's reports, of proofs, or indeed, of anything much beyond current correspondence. There would seem to me a strong case - as we shift towards the electronic, and storage space is (perhaps) freed up - for university and other libraries to become systematic collectors of any materials onto which they can get their hands: for there to be an explosion in archives. But this, in its turn, would generate a further problem, to which I will turn later.

First, I wish to address another kind of issue; one prompted by a recent research interest of mine.

3. Problems about Knowledge about Knowledge Management

I have recently become interested in some issues relating to what is sometimes now known as 'knowledge management'. Indeed, I am, in 2001, teaching an undergraduate philosophy course that inter-relates a range of theoretical material to issues that are often today discussed under the heading of 'knowledge management'. The very existence of my course, and of my personal research interest, however, itself highlights a problem. For it turns out that there is a whole range of different kinds of literatures, which address issues, relating to knowledge management, in various different fields. What is more - and this generates the real problem - they do so using a variety of non-standard terminologies.

Let me introduce this problem, by way of a brief account of the development of my own interests. This should help to make the character of the problem clear - and it may also suggest also a possible path to its solution.

My own interest in knowledge management came about as by-product of my interest in the work of the economist, Friedrich Hayek. He had written about the way in which a society could make use of tacit knowledge scattered among many different people, by making use of markets and prices. For these create mechanisms which allow people to take decisions concerning their own resources in the various situations in which they find themselves, and to make use of their own tacit knowledge or 'know-how' in these decisions. Information about other people's preferences and plans - and thus about the potential market for their goods and services, and about the demand elsewhere in the economy for them - is transmitted to those individual actors by way of market prices. I then became interested in the problem: how may one make use of such tacit knowledge within organisations? This question led me onto a path that has taken me into a wide range of different, and often fascinating, issues and materials.

Indeed, what I have found is this. There are many different theoretical literatures that relate to this kind of issue. They are to be found in many different areas of academic study, including philosophy, theology (e.g. in the study there of tradition), anthropology, social administration, and economics. There are also all kinds of materials being produced within the study of management, not only within universities, but also by commercial organisations interested in selling their products, and also on all kinds of bulletin boards. Accordingly, I found that, as my interest in these matters developed, I was increasingly using non-standard sources to track down information. This meant not just the web (in which the commercial meta search-engine 'Bullseye' with its tracking feature, was invaluable), but also services such as Individual.com, which gave me, every day, a customized selection of commercial electronic press releases. In turn, I was led on to organisations - such as the ACT Knowledge Management group - whose members exchange references to interesting printed material and web sites, as well as meeting each month, in the flesh, as it were. This, though, was not the half of the story.

For, through discussion with a nephew who is a Professor in Montreal, I was given leads to materials - again, from a wide range of sources, both academic and commercial - dealing with closely related problems that have arisen in the academic field of economic geography. I have also had fascinating, and illuminating, discussions with friends who have interests in the operations of US retail department stores, and have received some great leads from them to issues and materials that I would not have known about otherwise.[10] To cap it all, when I recently gave a talk about these issues in the US, I was surprised by a comment from a graduate student, to the effect that, from his perspective, I was re-inventing the wheel. For he knew of the kind of thing in which I was interested - from his work in industrial relations psychology. In addition, I have recently come across a further literature dealing with related topics that has been developed under the heading of 'learning organisations'.

Your reaction might well - and understandably - be: this is all interesting enough in its way, but what does it have to do with us? That I think is a fair enough question. It is one to which I would now like to respond. I would suggest that it brings with it three kinds of problems for you as librarians, in terms of how best to supply access to content, to your clients.

The first is that, in your role as providers of information, clients such as I and my students in this area may be rather awkward. For what we want is likely to be scattered through various, and diverse, sources, many of which we will probably wish to access directly, rather than through the resources that you provide. Why? Well in part it is because these things may be available on the Web. Not only can we access this directly, but we are more likely to access material in which we are interested by using search engines and leads from friends, rather than by way of more usual library-provided resources or portals. This may mean that we simply don't bother you at all. But it may mean that my students will bother you, but because they will require more and better access to the net - i.e. more machines, and ideally good access to search engines - than you are used to providing, as well as easy ways of saving or printing out what they come up with. (Assuming, that is to say, that it is libraries, rather than other parts of the university, to whom they can look for the provision of such facilities.)

It may, however, lead to something more problematic. For many of the sources that we will locate - by the means to which I have referred, or by way of searchable databases - are not free. We may look to get access to this material, via the university's information budget - i.e. via your library budget. A further problem to which this leads and which you are already surely encountering as a consequence of searchable data bases - is that it may amount to the demand that the university's information budget be disaggregated, so that the different members of the university community can spend it on their needs, where these are individual rather than collective in character.

For example, I may discover an article that is relevant to my research, which is held on a proprietary database such as Northern Light. If the sum for which they are asking in order that I can get access to the material is small, I may be willing to pay for this out of my own pocket. But can I expect my students to do this? (And if more than one student needs access to such materials, what arrangements can we set up to avoid each of them having to purchase access to the material?) Further, beyond a certain point I might well say: why should I be paying for my research materials, when my colleagues get their books and journals paid for by the library? If this - reasonable enough? - demand is met, one striking point should be noted. It is that the kind of material that I am referring to is typically made available just to one individual. If I ask the library to buy a book, it is, in principle, available to as many people, serially, as wish to read it, until it falls to pieces. The same is true of a journal subscription, physical or electronic. But the kind of electronic material to which I am referring is particular - i.e. it consists of individual articles etc, not of subscriptions to a whole journal - and it is delivered just to me.

It is no solution to say: you need to buy it out of your research grant. For not only is this material that I may well need for teaching purposes as much as for research. But I may well not be working in a field in which I can obtain research funding - especially for such purposes. (In addition, in Australia, I have come to find that small research grants, of the kind relevant to my work, are hardly worth the considerable trouble that it takes to apply for them. The application procedures are time-consuming, only certain kinds of expenses can be covered, and if one is successful - and the money available is very limited - one typically finds that only a proportion of ones costs are covered. I am increasingly motivated to find ways of earning money, typically abroad, and to pay my own research expenses out of them.) Be that as it may, I suspect that I - and my colleagues -

will, increasingly, be putting pressure on universities, and thus on you, to disaggregate what has until recently been expenditure for the purchase of common resources.

If this were to happen, this would not mean that you would be without a role. But it might turn out to be that of a kind of purchasing officer, negotiating good deals on bundles of services that those within the university would then use individually.

There is, however, a third aspect to the problems that I have discussed. It concerns how the user of such information sources is to find the information he or she needs. My difficulty here, in the field of knowledge management, has been that work relevant to the problems studied in this area is going on in such a range of different fields. People working in these fields often do not know about one another's work, and do not use the same terminology.

The difficulty here, as far as I can see, is that if one uses searches under particular terms in databases, one is limited to what, in a sense, one already knows. While I am not sure that the usual kinds of searches within library cataloguing systems would help much, either. I suspect, though, that help might be at hand, in terms of developments that have taken place in the commercial sector.

I already find that the information system of Amazon.com is invaluable in helping me locate new books. But they also have a feature that I find increasingly useful when exploring a new area of research: the links that they provide to books that those who have purchased a particular book have also purchased. This seems to me a really interesting research tool - and one that, surely, could be made use of by libraries, too. That is to say, might it be possible to store information about what has been looked at, by those who previously looked at the item in the library catalogue that you are looking at, now? (Such a device might, indeed, provide the kinds of links across disciplines that are not, as far as I can see, provided by more orthodox research tools.)

I do not know what would be required to develop such a facility - but I suspect that would be immensely useful in relation to the kinds of problems that I have encountered when undertaking research on knowledge management. Clearly, there may be problems, too. I do not think that they would involve privacy. (This anyway seems to me over-rated: individuals can, surely, legitimately agree to contract away aspects of their privacy, in return for useful services which cannot be provided if it is retained - as is the case with respect to credit cards and credit records[11]). There is possibly a problem in the sense that a hitherto unthought-of link between different subject matters might be what leads to some new insight, and there would be a difficulty if this were given away to all and sundry. I suspect, though, that this could be handled by way of individuals signing off from such a service, at a certain point - such that from then on, links made by others would not be available to them, but their links would not become common property. Once their insight has been pursued and, say, their paper or essay written, they might be happy for the links then to be filled in - as, say, would happen by way of references that they would provide in a published paper. If one were doing such work in connection with teaching, then one might not be so concerned about the problem, anyway (and it might be neat to be able to contribute a set of suggested links which ones students might follow up, if they were interested).

There are, though, some interesting issues of intellectual property here, in the sense that a body of such links might become a valuable intellectual resource - e.g. as possessed by one institution, and not by others, and which the institution that possessed it may not choose to share with everyone. In addition, there are problems about just who owns such links - the people creating them, the library, or the university? But I will not venture further into these issues, now. Instead, I will turn to the final section of my paper.

4. Scholars on the Move - and the General Public

I am finishing up this paper in a motel room, in Menlo Park, California - because I need to be near the Archive at the Hoover Institution, Stanford University, for research that I am undertaking there. However, I face a problem - one that, I suspect, will grow, until it is addressed in a systematic manner.

The problem is as follows. While I am there, working on academic materials in the archive, I am likely to need to have recourse to the facilities of a university library. In the past, I would, typically, have been able to do this by way of academic hospitality being extended to me by the university that I was visiting, either for nothing, or by payment of a fee. This is still possible at Stanford. But I am acutely aware of the fact that, if someone from Stanford were to be doing similar work at the Australian National University, they would be extremely limited in respect of that to which they could get access in the university library. Because of the character of site licenses for electronic materials,[12] only members of the ANU university community can obtain full access to library facilities. Other visitors - which would include the casual academic visitor, and members of the public - would only be able to obtain restricted access; essentially, to the catalogue of printed materials, but not to electronic journals and data-bases. In some cases, however - and I suspect that this will be the case increasingly in the future - material that a scholar may wish to consult is only held electronically.

This threatens to lead to the weird consequence that the spread of electronic materials is, in fact, restricting what people are able to access. In addition, it is at a certain level a scandal that the wider function of the university, and especially its library, as a resource to the community, has been eroded, without, as far as I know, there having been a general debate about the public policy issues involved.

There would seem to me three ways to go in the face of this.

The first would be to take further the disaggregation of the university's information budget. On this view, 'my' section of the budget would travel with me, and I would be able to use it to buy into whatever services I needed access to, wherever I was. Libraries - and other institutions - would, presumably, negotiate contracts with suppliers, so that individual customers would purchase materials that they needed, wherever they happened to be. (Libraries might well take a percentage of the fee when visitors used their physical facilities to access databases, under such conditions.)

Second, I might carry with me access to information via the ANU library. I.e. if I needed to use data-bases while at Stanford, I would log in, not to their information system, but to that at the ANU, using a password. This, though, I might need to supplement, given that - as I have already suggested - what the ANU can provide by way of access via its commonly held resources, to meet my and others' increasingly varied needs, may be somewhat limited. I would thus expect that, with the passing of time, a portion of the money that I currently spend on books, would, if such arrangements were in place, shift to the private purchase of additional data-base and related services.

There is, however, also the problem of the wider public role of university libraries, and of other libraries: of the way in which access to information is being been withdrawn from the wider public, as the result of the shift into electronic materials. The owners of databases do, surely, have a legitimate concern here, in the sense that they may have developed their materials for use by a commercial market, and may be concerned lest those who should be purchasing their services make use, instead, of free or cut-rate provision, via academic or public institutions. One could, though, surely limit public use to use within the premises of an academic or other library, and charge a fee - to be passed on, in part, to the commercial provider - for commercial use of such services.

But what, one might ask, of the agreements themselves? For the pricing policies, and conditions under which site licenses are offered, seem, frequently, to be drawn up with no real understanding of the situation of those involved in teaching and non-commercial research. Here, I have a concluding suggestion.

It is worth noting that, almost universally, funding for academic institutions comes from the taxpayer. (This is true even of most 'independent' institutions, in the sense that they typically qualify for various kinds of governmental support - e.g. by way of the support of research.) One tempting direction to go, would be for governments to consider making arrangements among themselves, to the effect that their funds could not be used to purchase electronic materials, unless the site licenses made adequate provision for public non-commercial access. If libraries and other institutions were prevented, by means of such legislation, from entering into agreements to purchase electronic materials other than under conditions that safeguarded public access, this would, to say the least, strengthen their arms in negotiation with the companies in question. It would mean that in order to sell their materials, those companies would have no option but to offer agreements which respected the tradition of public availability of knowledge via university and other libraries. At the same time, the companies could be compensated by way of fees paid for such access, by means of a mechanism like that which compensates authors for the use of their books in public libraries.

5. Conclusion

In this short paper, I have, I suspect, moved from the trite to the crazy, with not much in between. I would admit that some of the ideas - especially towards the end of the paper - are a bit wild. But if, as I suspect, you reject them, I hope that you will not reject the problems towards which they are addressed. For the problems that lead to the demand for disaggregation, and the problems of the problems of the traveling scholar, are, I believe, acute. While we also, I believe, need to pay real attention to what seems to me a really important diminution in the public role that the university, and above all the library within it, can play in the community, in the light of current trends.

I would be very surprised if, in this short paper, I had come up with telling answers. But I do think that these are among the questions that, at the moment, need urgently to be addressed.

Notes

1 See, on this, the 'Preface' to Karl Popper, The Poverty of Historicism, London: Routledge, 1957 etc, and also, now, for the fuller argument behind his brief comments there, his The Open Universe: An Argument for Indeterminism, London: Hutchinson, 1983 etc.

2 See Thomas Kuhn, The Structure of Scientific Revolutions, second edition, Chicago: University of Chicago Press, 1970.

3 See Margaret Masterman in A. Musgrave and I. Lakatos (eds) Criticism and the Growth of Knowledge, Cambridge: Cambridge University Press, 1970.

4 See Criticism and the Growth of Knowledge; the second edition of The Structure of Scientific Revolutions, and also Kuhn's The Essential Tension, Chicago: University of Chicago Press, 1972.

5 See K. R. Popper, Unended Quest, La Salle: Open Court, 1976, and Imre Lakatos, Philosophical Papers (ed.) J. Worrall and G. Currie, two volumes, Cambridge: Cambridge University Press, 1978.

6 What might be called the serial monism of Kuhn's account has been contested.

7 Compare, for example, Michel Foucault, Discipline and Punish, New York: Vintage, 1995.

8 Until such point as we reach the truth. I will not embark upon an extended discussion of the issues that this raises, other than to note that some aspects of Kuhn's own work may lead one to interpret his view of paradigms as 'non-realist', and thus as things which cannot be true or false. Further, many of the other commentators who do think that we can aspire to truth here, also stress the fallibility of human knowledge, and thus the idea that we can't be sure that we have reached the truth.

9 See, for example, Michael Slote 'Agent-Based Virtue Ethics', in Roger Crisp and James Slote, Virtue Ethics, Oxford: Oxford University Press, 1997.

10 For example, to the magazine Fast Company.

11 On which compare Daniel Klein (ed.) Reputation, Ann Arbor: Michigan University Press, 1997.

12 And, presumably, because of what were some of the odd conditions imposed by the Australian government's telecommunications legislation upon AARNET.

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Proceedings

Speech for ALIA 2000

Nick Smith

If you've looked at what people have been saying over the last couple of years about digital intellectual property, you might notice that there are radically divergent views abroad.

For example, Deloitte & Touche's recent *Technology Trends* report refers to the need 'to halt the growing crisis of intellectual property theft.' Or as Edgar Bronfman Jr of Seagram and now vice-chair of the 100 billion dollar content giant Vivendi Universal, put it (somewhat more dramatically):

> The massive power of the Internet can permanently wipe out and shut down in one unthinking moment, a writer who may depend for his living on the sale of 5 or 10 thousand copies of his book. It can devastate a musician who sells a few thousand copies of a homemade CD to his fans in some small and little known community. And these would only be the first casualties. The rest would follow as the very basis of the New Economy was undermined.

In contrast to this, is the idea of an expasion of intellectual property in terms of its duration, its subject matter and its scope of protection that a number of people such as Professor James Boyle of Duke University characterise as an 'intellectual land-grab'.

Many a cyber-libertarian website decries the fact that 'free speech and the public domain are under attack by increased intellectual property right protection'.

How can these opposing views be reconciled? How can we be in a time of ever increasing intellectual property protection at the same time that the Internet is threatening to snuff out creative types, permanently and without thinking?

I would suggest the these opposing views can be sustained because they're talking about different things. It is true to say that intellectual property laws are expanding upwards and outwards giving unprecedented levels of control of information. It is also true to say that intellectual property in the online environment is facing an enforcement crisis. And this is the difference, what the law says versus how the law can be enforced. Both are problematic.

But it is important that we realise that they are different questions. Copyright owners argue that they need stronger rights and fewer exceptions to deal with this enforcement problem. Indeed that stronger rights are meaningless unless they can be enforced.

I would like to examine this idea that the Internet is to copyright what the black death was to medieval Europe. I would argue this infringement problem is more like glandular fever: it doesn't spread everywhere, not everyone catches it and it doesn't last forever.

The primary argument advanced by copyright owners is that as the costs of reproduction and distribution of a digital object head towards zero, the main impediment to piracy, physical inconvenience, disappears. Of course, as these costs head towards zero, the traditional impediments to wide-spread publication also disappear and this is a good thing.

But the counter to this is that this is all well and good but doesn't help the author if their market is saturated with the very first communication. This is argued quite frequently. An author sells one copy of her novel through her website; her single customer then transmits this to 100 hundred friends who transmit it to 100 friends and so on until the entire Internet is awash with her novel and everyone has received a copy somewhere between 10 and a 1000 times, depending on how popular you are. This author has been permanently wiped out and shut down in the words of Edgar Bronfman Jr.

But this is not what happened in the case of Stephen King's trial distribution over the Internet of his work-in-installments 'The Plant'. King is selling pieces of his work through the honour system. If 75% of people who download don't pay up then he stops making future installments available. The fourth installment was made available yesterday. [check that this occurs]

It's a little early to extrapolate from Stephen King to the future of online publishing but clearly the market for King's work which is a highly valuable consumer commodity was not wiped out the very first time it was legitimately downloaded.

King's experiment is a microcosm of copyright itself. Treat present creative material with respect or there won't be anymore. And by and large that's what King's customers on the Internet have done.

Of course the great proof that the Internet is out to destroy creative people is Napster, the incredibly popular system for sharing musical files. But the technology which facilitates copyright infringement on a scale never seen before, also enhances copyright enforcement on a scale never seen before.

When Metallica decided to have a go at Napster, they hired English IT security firm NetPD. In a short time, somewhere between a few days to a fortnight, NetPD produced a list - which no one disputed the veracity of - of 300 000 Napster users who had traded Metallica files. To produce a comparable list of people who were physically trading pirate CDs would be impossible in any time frame.

NetPD says that its software 'works like 5,000 humans sitting in a room doing Web searches'. It further claims that 'it monitor[s] more than 10m illegal MP3 files on the web and a further 20m MP3s held by 'Internet communities''

This clearly represents an enormous potential for copyright enforcement. The very technology which makes file exchange so easy makes file tracking almost as simple. As Washington lawyer Michael D. Mann put it: 'What's so ironic about the Internet is, as impersonal as it is, it creates the ultimate paper trail.'

This is not to deny that the Internet doesn't present a problem for the enforcement of copyright, rather to assert that the Information Superhighway is a two-way street. And I apologise for that metaphor.

The important thing to remember is that this is very much a time of transition as the world moves from being entirely analogue to some unguessable mix of analogue and digital. And like all other truly insurmountable problems, the problem of copyright enforcement on the Internet will resolve itself soon enough.

Given a choice between easily-obtained, reasonably priced legitimate material and unreliable pirate material that must be chased up and down the web while the netPD attack bots close in, it is pretty clear which choice most consumers will take.

This leaves the question of the expansion of intellectual property. This 'intellectual land-grab'. If the reason given for yet another ratcheting up of intellectual property is this 'crisis in intellectual property theft', what will happen when this crisis resolves itself, when intellectual property is happily traded on the Internet without all this talk of authors being permanently shut down?

Will intellectual property laws be loosened? The answer is almost certainly no. Historically, copyright laws have only ever increased; the duration, the subject matter, the rights.

I would argue that the mere extension of copyright principles to the digital environment has led to an unprecedented expansion of the right of copyright owners to control information.

During the Digital Agenda Act debates, it was often claimed by copyright owners that digital is different. What was meant by this of course was what I was referring to earlier. The absence of physical impediments to piracy would mean that copyright exceptions which allowed digital copying and transmissions would lead to more piracy. Never mind that those who understand and use copyright exceptions do so because they wish to remain within the law whereas pirate copies are generally made from legimitately purchased original and do not involve the operation of exceptions.

I agree that digital is different. It is different in a way that grants much greater legal control to copyright owners. The physical impediment to piracy is missing precisely because there is no longer a physical object which embodies the copyright material.

A book is a tangible object that an individual or a library can purchase. You don't own the information but you do own the book it comes in. The law prevents you as a consumer from making anymore of these books without permission but it does not restrict your use of a book in anyway. Reading a book, borrowing a book, reselling a book - these acts are all outside the scope of copyright. They require no permission.

Except that is, in the digital environment. Any time an electronic book is communicated it, that requires permission or an exception. Any time a copy is made, that requires permission or an exception. It is not possible to email an e-book to a friend, saying 'here I think you will enjoy this'. This is copyright infringement.

It has been suggested that electronic books and software can be lent or resold provided that the first person does not retain a copy, thus making it equivalent to lending a paper book. Maybe, but this will depend on the licence agreement. We expect, as reasonable consumers, that the licence (the clickwrap or shrinkwrap licence that we do not read) will permit successive copies provided that only one copy is kept at any given time.

The licence may or may not permit this. But here is evidence of increased control over information. It is our right to lend a book. To lend an electronic book, we need a licence.

And what of reading, that most basic of acts. How can that possibly come under the control of the copyright owner? Simple. It has become accepted in most jurisdictions around the world that temporary copies such as those made on a screen, in a PC's cache or Random Access Memory are copies which are subject to a copyright owner's control. In the course of the Digital Agenda reforms, it became obvious that the government accepted this view also. But why? No act of Parliament or decision of a court in this country ever said that temporary copies are covered by a Copyright Owner's Right of Reproduction. In the latest court case to touch on this question Microsoft v Business Boost, Tamberlin J said: 'I am satisfied that there is an open and serious question of law as to whether the launching of a computer program [or electronic book] for temporary storage and operation in RAM is a reproduction in a material form' He also referred to an earlier case which suggested that this type of copying is analogous to reading.

Somehow this has all been lost. The Government included an exception in the Digital Agenda Act which exempted some temporary copies from the Copyright Owners Right precisely because it recognised this is like reading. Unfortunately, it was botched (and I can say this because I was working for the Government at the time). By covering some temporary copies but not others, the Act strongly implies that those temporary copies not covered by the exception may be controlled by a copyright owner.

As only temporary copies made in the course of a *communication* are included in the exception (such as a transmission from a website), these leaves all other temporary copies out in the cold. This means that if you bought an e-book on CD-ROM and launched it from your hard drive, you would need a licence from your publisher to cover the very act of reading.

Thus the copyright laws which Australia and the world are now embracing extend copyright owners' control over areas that have never been controlled before. I suspect that this level of control will remain long after the Internet has been made a copyright-safe zone.

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Flexible learning in higher education: examining the case for the 'learning profession' and the 'learning discipline'

Chris Trevitt

Introduction

Why might librarians be interested in 'flexible learning in higher education'? In short, I suggest that one key reason centres on the profound changes that are implied by the term. Librarians have for some time concerned themselves about the consequences for their profession of the pressures for change in education provision, including those associated with the increasing proliferation of communication and information technologies (CITs) (eg Bundy, 2000). Undoubtedly these changes have important ramifications for those librarians working in the higher education sector. From my perspective, the very nature and direction of these changes ensures they will also be of central concern to many more members of the profession, no matter where in society they are working. My purpose in this paper is to explain how I arrive at this conclusion.

Many of us have encountered the term 'flexible learning', even if we do not work in the higher or further education sector. The term is increasingly widely used, and some institutions of higher education have even created 'flexible learning centres', thereby explicitly institutionalising the term. But do we have any idea of what exactly is meant by the notion of 'flexible learning'? As a goal, or for direction setting purposes, our shared notions may well be adequate. As an established and proven mode of operation however, our collective perspective is still largely evolving.

My co-speaker, Janice Rickards, Pro-Vice Chancellor at Griffith University, notes that while the term 'flexible learning' means 'different things to different people', some institutions at least (and hers is one) have developed a comparatively advanced level of collective understanding of the term. In her paper, Rickards provides a useful summary of some of the attributes or characteristics of flexible learning, and the increasingly central part being played by CITs (in particular, the world-wide web). Peter Taylor, from the same institution, has elaborated these ideas for internal educational development purposes (Taylor and Joughin, 1997; Taylor et al., 1998).

My perspective is that the term 'flexible learning' signifies that change is underway, is imminent, or being demanded, as noted above. The term 'flexible learning' signifies that change is the norm rather than the exception in Australian universities at the start of a new millenium, and there is an increasingly relentless pressure for more and more change in the provision of post-compulsory education options and opportunities.

In this paper, I want to consider briefly a new way of framing the changes currently being pursued in higher education course provision. I want to start with two propositions, namely:

- that lifelong learning and the notion of the 'learning individual' is becoming a central consideration in our society (or at least, it certainly is in the 'knowledge worker' world inhabited by the librarian and the academic), and
- that those of us who work in institutions should be striving to build a 'Learning Organisation' (or 'Learning University').

Then I want to examine the idea of a 'learning profession' or 'learning discipline' as a concept intermediate between the notion of a 'learning individual' and 'learning organisation/university':

- that is potentially much more central to academics' and others collective professional identity, and

- that exhibits attributes central to a deeper understanding of the nature and direction of the changes being wrought under the rubric of 'flexible learning'.

Before doing this however let me give some examples of university courses that I am acquainted with, and, I believe, exhibit some of the emerging attributes that are coming to characterise 'flexible learning'.

Flexible learning - some emerging attributes

Table 1 lists a very small selection of courses that exhibit some emerging attributes of 'flexible learning' programs. These courses are chosen not so much because they are exemplars as because I have some first hand knowledge and experience of them. A key feature shared by them all, is that even while students are enrolled, the course design is in transition, evolving to meet changing needs. Note the overwhelming emphasis in Table 1 on graduate courses, and on comparatively small enrolment numbers. These courses do not seek to emulate the UK Open University approach where enrolments can exceed thousands of students per course.

Many of the practical attributes of 'flexible learning' are still at a very early (immature) stage. Course evolution and course provision is by no means entirely geared to a world of constant and rapid change. For some institutions, if not at Griffith University, 'flexible learning' may exist at the margins for sometime to come (and hence characterised by small enrolment courses, national niche market courses, etc).

The shift in emphasis that all these examples portray is a shift away from both a 'traditional residential education' and a 'traditional distance education' (see Figure 1). Course design and development thus entails more of hybrid approach that aims to retain some of the best features of each approach, but also requires the development of new approaches and methods. There is likely to be a diminished role for 'face-to-face' lecture and tutorial activities (that tend to dominate traditional residential education), and a diminished role for a separated 'materials' and 'student support system' (that tend to dominate traditional 'distance' providers). The shift is toward an integrated approach to provision of materials and student support (via computer-mediated conferencing, etc). Increasingly sophisticated models of student learning support are seamlessly incorporated into a structured but modular sequence of learning activities. Models embrace practitioner support (eg NCEPH work-based Masters program), peer support (eg AGSM MBA program) as much as institutional support (eg Education at Deakin University), in addition to program-level in-house academic/teacher support.

Discipline area	Host institution(s)	Award	Period in existence **	Typical enrolment numbers	Flexible attribute(s)
Higher Education	University of NSW (UNSW)	Certificate; Diploma; Masters	Many years	Small (eg few 10s)	Started with a 'traditional' distance education approach (ie print based study guide and 'reading brick'); evolved some online attributes in some modules.

Business (MBA)	AGSM* (UNSW, University of Sydney)	Masters	Many years	Medium to large (eg 100s)	Currently operating as a 'traditional' distance course; preparations underway for online development.
Education	Deakin University	Diploma; Masters	Many years	Medium (eg 100 +)	Roots are in 'traditional' distance provision; hybrid print and CDrom resources used (eg 'Hathaway' School)
Clinical trials management	University of Canberra (with ANU)	Certificate; Diploma	Less than 5 years	Small	Started as a 'traditional' distance course; online development underway.
Public health; epidemiology	NCEPH*, ANU	Masters	10 years	Small	Originated as a 'distributed' model, with a focus on workplace learning (based anywhere in Australia), and some 10 weeks 'residential' during 4 blocks over 2 yrs.
Legal practice	ANU, + others (in negotiation)	Diploma	Less than 5 years	Medium (eg 100 +)	Originally a fulltime on-campus course with local clientele; then became a 'distance' course catering to off-campus students; now moving online.
Hindi language	ANU (and University of Sydney)	Undergrad	Less than 5 years	Small	Initial emphasis on videoconferencing between the two institutions; recent developments involve creative, interactive online support materials and activities.

Table 1. Some examples of emerging flexible learning programs in Australian Higher Education. (Note:
* AGSM is the Australian Graduate School of Management; NCEPH is the National Centre for Epidemiology and Population Health;
** The period referred to is the period during which the 'flexible attributes' listed have been evident).

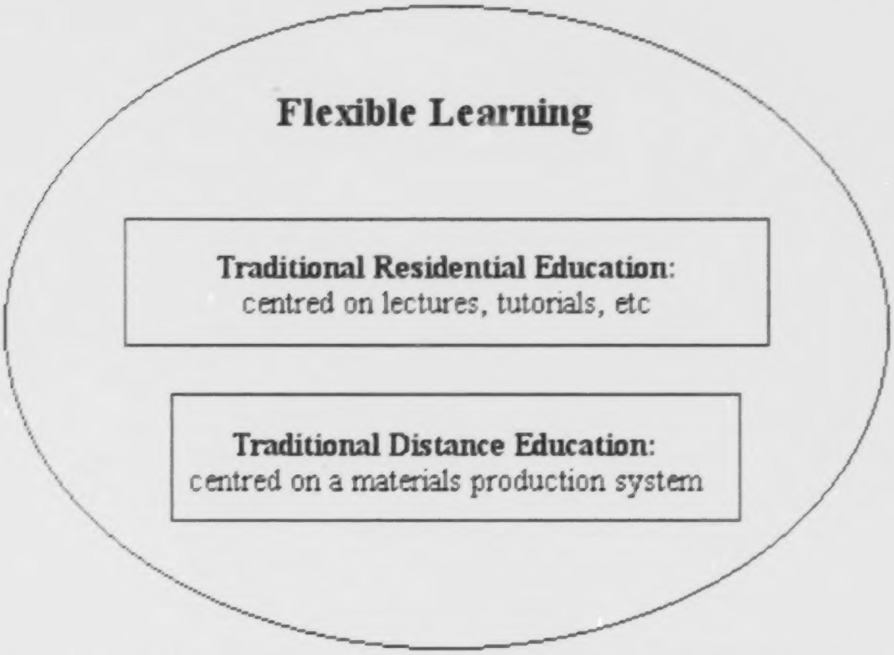
Flexible Learning
Traditional Residential Education: centred on lectures, tutorials, etc
Traditional Distance Education: centred on a materials production system

Figure 1. My concept of 'flexible learning' denotes a superset of attributes that draws on traditional residential and distance approaches.

The term 'flexible learning' thus denotes a superset of attributes that both absorbs and builds beyond those attributes that characterise the educational traditions that have prevailed. It demands that we pick the eyes out of what is good in residential face-to-face courses, and what is good in 'distance' courses. It also demands that we invent other attributes, as we need them, in order to meet changing needs.

This invention requirement poses fundamental developmental challenges, since the invention process, by and large, is not yet part of the institutional fabric for many universities. The concept is central to the notion of a 'learning profession' or learning discipline' however, as I discuss below.

Lifelong learning and the 'Learning Individual'

The bulk of the demand for courses such as those instanced in Table 1 comes from individuals engaging in lifelong learning - what I term the 'learning individual'. These are people pursuing further studies, often additional to a first degree. They may be competent independent learners, and they may be preparing for a second or third career. As suggested by the examples instanced in Table 1, the courses sought are often at a postgraduate rather than undergraduate level.

According to the management consultant Peter Drucker, such individuals who are 'knowledge workers' will tend to outlive their employer organisations (Drucker, 1999) and so, increasingly, lifelong learning will become the norm. He suggests we each need to learn to think like a 'one-person CEO' and this means asking a number of key questions, such as:

- What are my strengths?
- How do I perform?
- Where do I belong?
- What is my contribution?

Learning organisations and learning universities

At the other end of the scale is the idea of the 'learning organisation'. This concept underpins the work of Argyris and Schon (1978) and was popularised by Senge (1990). 'Learning organisations' acquire and develop the attributes necessary for survival in a world characterised by rapid change. Garvin (2000) has examined some of the practical matters that need to be addressed when implementing the concept.

Senge identifies five themes that lie at the core of a 'learning organisation', and some or all of these may be applicable to the notion of a 'learning profession' or a 'learning discipline':

- Personal mastery -- developing a personal vision and having faith in your own ability to make a difference within the organisation;
- Mental models -- understanding the way you and your colleagues think and reason;
- Shared vision -- aligning your own aims and ambitions with those of your colleagues;
- Team learning -- working with colleagues to go beyond your own way of seeing; and
- Systems thinking -- seeing your own work as a unit in the systems of a larger whole and understanding how what happens in one affects what goes on elsewhere.

Elaine Martin from RMIT University has explored Senge's ideas in the context of universities (as one particular type of organisation). Martin (1999) suggests that, if universities are to embrace change in the way they think about and manage themselves, they need to manage and balance the various tensions involved, and support their staff through the provision of appropriate tools. Key, she suggests, is a three-stage structured approach to grieving (letting go of the past) managing the transition, and making alternatives visible and publicly established. Coaldrake and Stedman (1999) argue that for universities addressing these challenges ' - it is not ... sufficient to shift the onus of learning to university staff; it is also necessary to foster a culture that supports and rewards initiative and performance in the interests of both the institution and individual.' Again, these issues and ideas may have relevance to the notion of a 'learning profession' or a 'learning discipline'.

Toward a 'learning profession' or 'learning discipline'?

In their essay on the changing nature of academic work, Coaldrake and Stedman (1999) devote an entire sub-section to the 'Diffusion and blurring of [staff] roles', noting that, in contrast with general staff, 'many academics see their primary loyalty as being to their discipline, rather than to the institution'. This suggests to me that the notion of a 'learning profession' or 'learning discipline' might have merit as a way of labelling and thinking about the changing world of university education and learning.

Inserting the word 'learning' in front of 'profession' or 'discipline' implies, for me, something dynamic and action-focussed. It is important at this juncture to distinguish two separate periods when this dynamism impinges on individuals working in a discipline or profession. The first is the initial period of induction into a discipline or professional community (usually through taking a university-based degree). The second is the subsequent period working in that discipline or profession. While there is usually at least some opportunity and incentive for graduates to subsequently engage in on-going professional development of some description, my concern here is the extent to which the initial induction period (undergraduate degree) prepares them for this activity and more importantly generates a hunger for it. If lifelong learning becomes increasingly central and Drucker's prediction that we each need to become our own CEO holds true, then there will be increased demand for individuals to benefit from more explicit preparation for these 'learning to learn' action-focused career demands.

So what are the likely attributes of the 'learning to learn' dimensions of professions and disciplines? Ellis (1992) provides one perspective on what he terms an 'action-focus curriculum' for the interpersonal professions (eg Nursing, Social Work). Some probable attributes of a 'learning profession' are exemplified for me by the activities pursued by participants in the NCEPH Masters program listed in Table 1. For example, the bulk of this two-year program involves field and work-based placements, interspersed with blocks of time at the ANU. Accordingly there are both professional (work-based) and academic supervisors for each participant. More importantly, part of the curriculum for this program requires participants in their second year of study to 'learn to teach' the new participants who comprise the subsequent intake. This requires a structured action-focus approach centred on a two-day program. The second-years responsible for planning and conducting this structured two-day program are introduced to a number of guiding principles during an externally facilitated 'Introduction to Teaching' workshop that is conducted some months before the two-day program actually takes place. Following graduation the participants from this course are expected to become leaders within their profession, and to engage in further 'learning leadership' roles and activities, modelled after the formative experiences in the course.

Concluding discussion

This ANU example epitomises for me exactly what Donald Schon was driving at in his 'Change' magazine article entitled 'The new scholarship requires a new epistemology' (Schon, 1995). Schon challenges universities to shift their prevailing culture. He wants us to extend our collective culture beyond the 'norms of technical rationality' which are 'built into [our] institutional structures and practices'. Likewise, Brown and Duguid (2000) argue that ' ... a knowledge-delivery view of education overlooks the process of "learning to be", ... which is such an integral part of university life. "Learning to be" involves enculturation - engaging with communities of practice and of concepts.' Schon (op cite) suggests that: '... higher education institutions will have to learn organisationally to open up the prevailing epistemology so as to foster new forms of reflective action research. This, in turn, requires building up communities of inquiry capable of criticising such research and fostering its development.'

The challenge for all of us working in 'flexible learning' in universities is to find practical ways to address the desire for a 'new epistemology', to find ways to appropriately broaden curricula, and to foster a balance between theory and practice. These are all developments that underpin the concept of what I term a 'learning discipline' or 'learning profession'. Ellis (1992) suggests we advance this agenda by pursuing partnerships with relevant agencies (as in the NCEPH Masters program discussed above). This implies that librarians serving in these agencies are eligible to be drawn into the support structures for such flexible learning programs, in addition to the librarians based in the relevant campus libraries. Such developments, of course, would simply characterise librarianship as a case in point of a 'learning profession'.

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Skills for Systems Support

Rob Tucker

Agenda

- Where I work
- My job
- The things I work with
- The skills I use
- Skills transfer
- Where I see the future

Defence Library Service

To contribute to Defence capability by providing the right information at the right time, in the preferred format

- 22 library branches across Australia
    - supported by
- 4 specialist business units
    - administration, client services, technical services, information systems

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Electroniclink

Goal:

To move to the Defence Intranet as our way of doing business

Strategy:

Provide an electronic workspace providing single-point, trusted, desktop access to DLS information resources and services

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Electroniclink

- Information Systems unit
    - install, maintain and upgrade
        - DLS systems

        - applications
        - information services and resources
    - provide 1st/ 2nd level technical support
    - liase with 3rd level support
    - organise and deliver DLS information skills training
    - develop IS strategic and operational plans

Systems Administrator

To ensure DLS systems are working to meet the needs of our clients

- Application and Systems Administration
    - installing, testing, customising, maintaining, documenting, supporting
- Internal and external liaison
    - systems operation
    - technical requirements

Responsibilities

Networks	**People**	**Applications**
Hardware	- DLS staff	- Lotus Domino
- UNIX	- DLS Clients	- Apache
- PC desktop		- Training delivery
Operating Systems		+ WebCT
- Solaris		+ Smartforce
- Linux		- Unicorn ILMS
- NT		- ERL / OVID

Skill Set

Information Technology	**Communication**
- systems administration	- interpersonal
+ problem resolution	- organisational
+ planning	**Information Systems**
+ security	- database management
+ performance management	- human computer interface design

- analysis	**Project Management**
+ analysis and design	
+ programming and scripting	

Skills transfer from Librarianship

taught	***using***
Archives Management	Reference Interview
Records Management	Interpersonal communication
Supervisory Management	Using Information Services
Information Retrieval	- search and retrieval
Cataloguing	Principles of bibliographic description
Research Skills	- MARC
Information Provision	
Information Analysis	
Basic Information Systems	
Communication for Management	

The Near Future

IT, IS and IM working together for people

- Information Archecture
- Customer Relationship Management
- Knowledge Management

Information Architecture

- RSW - graphic designer and architect
- designing the organisation, navigation, labelling and search mechaisms of information systems
    - Louis Rosenfeld & Peter Morville - authors of "Information Architecture for the WWW" O'Reilly 1998
- technology, librarianship and useability

- "help people find and manage information"
- new name, new emphasis, new discipline

Customer Relationship Management

- IS that manages customer relationships and integrates all the systems involved with customer relationships over the interaction life cycle
- Chris Hoffman - research manager with International Data Corp. (IDC) in
    - Software Magazine Nov 1998 "Customer Service and Support takes to the Web" Elizabeth Harding, pp 56-61.

Educational Issues

- Using information services
    - too specific
        - information systems
- Designing services
    - No attention to structured development
- Principles of bibliographic description
    - too specific
        - systems analysis

Study Areas

- Information Science
- Business Administration
    - Integrated communications
    - Economics, accounting and finance
    - Human resources management
    - Technology management
- Industry technology certification

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Proceedings

A New Foreign Country: The Challenges and Risks of Making History in Digital Media for Historians and Librarians

Dr Paul Turnbull and Chris Blackall

In this paper, we describe and reflect upon the evolution of the South Seas Project. This project is a collaborative research venture between the National Library of Australia and the Centre for Cross-Cultural Research which has been underway since mid-1998. Its first major phase is scheduled for completion in late 2002

The project involves the production of web-based hypermedia resources on the history of European exploration and cross-cultural encounter in the Pacific, between approximately 1700 and 1840. As we in Australia hardly need reminding, it was over the course of this century and half that European and Oceanic cultures become entangled and profoundly changed forever.

However, our concern in this paper is less with the historical salience of the rich array of information resources the South Seas Project will create, than with its exploratory character in another importance sense. The project is greatly focused on devising practical solutions to the problems confronting Australian historical researchers who want to make history in networked digital media, and want to do so in ways that ensure migrating to virtual modes of communication does not result in them having to sacrifice the critical aims and practices which have underpinned the making of history in the realm of print. We want to find out , conceptually and technically speaking, what is needed for the making of digital history to become a research activity that is professionally recognized and supported.

It seems to begin this survey of the challenges and risks awaiting historians who journey into the virtual landscape by saying how the South Seas Project came about. The project began soon after Paul Turnbull was invited to take up a Research Fellowship at the Centre for Cross-Cultural Research, [1] located at the Australian National University, in 1998. A historian well known for his research on Enlightenment historiography, early anthropology and colonial racial thought, Turnbull, had for several years found himself increasing exploring the potential application of networked communication technologies in history publishing and teaching. In 1978 he had written a fourth years history honours thesis using a mainframe computer, and in 1985 completed his PhD using mainframe and micro-computer systems. By the early 1990s, the establishment of AARNet, and the resulting uptake of communication software such as PINE electronic mail and GOPHER, had convinced Turnbull that networked based electronic communication would rapidly be integrated in patterns of scholarly communication. By the time he arrived at the Centre for Cross-Cultural Research, he was well experienced in the creation and evaluation of web-based teaching and learning resources for the history of the social sciences. He had also founded an electronic journal, [2] and become involved in the development of H-Net, an international initiative to create communication networks and information resources for scholarly communities in the Humanities and Social Sciences. [3]

By 1997, Turnbull had began to consider how networked communications might be used as media for research, not simply the delivery of research outcomes. While skeptical of claims by literary theorists as to the freedom of interpretation that hypermedia bestowed on readers, [4] he was nonetheless of the view that in many instances it could allow readers greater freedom to draw or test connections between various kinds of historical evidence than print-based scholarship. Indeed, on the strength of successfully using the web in history teaching, it seemed feasible that researchers and their peers could interact so as collectively to gain clearer insight into such matters as the complexity of interrelationships operating between economic and cultural forces of wide influence, and factors which were peculiar to specific places and times. At the same time, having worked closely with Indigenous communities and organisations in North Queensland for some years on documenting the history of the theft of cultural property, Turnbull had become conscious of the degree to which the web might also be employed as medium to challenge the primacy of the written text in the history of cross-cultural encounter in Australia and the Pacific. 5

By virtue of his interest in early anthropology, Turnbull was struck with the idea of making hypermedia editions of the journals relating to James Cook's first Pacific Voyage (1768-71), arguably one of the most historically salient events in the modern history of Oceania and Australia. The journals could be presented via the web in ways that would allow researchers to explore how, in both obvious and many subtle ways, these journals differed in explaining the myriad new things that Cook and his party encountered, especially in the Society islands, New Zealand and Australia. Researchers could also be provided with a range of other interrelated historical documents, images and new scholarly commentaries. In respect of the commentaries, they could be designed so as to explain the disparities in testimony to be found in the accounts of Cook's first voyage, but equally they could substantially challenge researchers to contribute to the project by appraising these resources so as to create new relationships and commentaries on their significance. The project would have the potential to become a living web of scholarship.

Importantly, the project offered unparalleled scope for moving beyond presentation and commentary upon conventional European archival sources, to appraise visual and sonic media illuminating how the cross-cultural encounters of the Cook voyage have figured in the historical imagination of the Indigenous societies of Oceania and Australia since the 1760s. 6

By early 1999 the project was well underway, but its aims had undergone further evolution. It had become more concerned with what was required to create and manage such a rich array of diverse information resources.

From the outset, the project has been a collaborative venture between the Centre for Cross-Cultural Research and the National Library of Australia. The Library readily endorsed the intellectual goals of the Project, and agreed to assume responsibility for the delivery and archiving the project's outcomes. In 1998 it supported an application for funding through the Australian Research Council's Strategic Partnership with Industry Scheme (SPIRT). While that bid was unsuccessful, the Library generously aided the development of the project by contributing to the costs of creating digital copies of core documents and images, notably the creation of a new transcript of the Cook's own copy of the journal of his first voyage, which is preserved by the Library, and the careful unbinding and scanning of a first edition of account of the voyage published by John Hawkesworth in 1773. 7

However, discussions with staff of the National Library on preparing a revised SPIRT application over the summer of 1998-9 made clear that the success of the project hinged on focusing in greater depth on the challenges associated with ensuring that the digital resources it would created, and presumably those which it would in turn stimulate others to produce, could be managed within the Library's projected framework for collecting, managing and delivering information resources in digital forms.

A further significant development was Chris Blackall joining the project in mid-1998. A graduate in communication studies and art history, Blackall had gained extensive experience in the production and management of web-based educational resources with Education Network Australia (EdNA) and the University of Melbourne. In the course of postgraduate studies undertaken in art history and curatorship, Blackall had become interested in the project, and began investigating a number of issues closely related to its goals, notably the visual representation of geographical and historical data. During a twelve-month internship within the National Library as part of his curatorial studies, Blackall undertook extensive research on the growth of cultural information in digital forms for the exhibition and outreach programs of cultural institutions. Like Turnbull, working with National Library staff alerted Blackall to the need of digital history projects to exploit the various lines of research and development being undertaken within the library world in anticipation of the growth of historical information resources.

In short, by early 1999, Turnbull and Blackall were convinced that resources created by the project would need to conform, as best they could anticipate, to the ways of encoding and describing digital information resources which were most likely to be widely adopted within the library world. Equally, they were conscious of the dangers of failing to ensure the project's resources were interoperable in key respects with these emerging standards - even though this meant striving to comprehend a wealth of research and development within the fields of library and information science which was not always readily understandable, even to two reasonably computer-literate scholars in the humanities. It seemed clear that if they were to continue journeying into the virtual without trying to comprehend and implement the work of library professionals, they would be creating more problems than they solved, both for digital librarians and the research community they were aiming to benefit. Without incorporating the means for libraries to manage what they were creating, they were - to paraphrase one leading British digital library specialist - creating web resources with all the durability and scalability of a tower of playing cards.

Realizing this, we undertook an extensive review of the project, in which we began by revisiting our basic assumptions about why we wanted to use networked hypermedia. Clearly, our main aim was to create information: to produce content, to employ the parlance of the web, which was accurate and useful to other scholars. Further, it had to be created in forms that could easily be integrated with the resources we placed on-line, or incorporated into related or new web-based research ventures. Otherwise there was little chance of mirroring the discursive economy within which historical knowledge is conventionally produced, disseminated, absorbed, and critically refashioned.

To illustrate what we mean by this, let us return momentarily to the more familiar world of print. Historians traditionally write books. They also produce articles for specialized academic journals. Many also write for journals of opinion and newspapers. Irrespective of the genre, the value of their writing as historical knowledge as decided by peer review. Books and specialist articles in particular are published by academic or commercial publishers only after anonymous review by two or more scholars with expertise in the same or cognate fields.

On publication, a book or article enters the realm of historical discourse, where it is read and digested by other researchers. They may choose to review the work for a journal, incorporate its findings within their own research, or critically appraise its worth within their own writings. And so historical argument proceeds.

Now, this is all fairly self evident; but what was of particular interest to us was to focus on what is implicit in this process: what one might call the infrastructural elements by which the network of reception and refashioning of historical knowledge sustained by print-based publication routinely occurs.

Most obviously, absorbing another researcher's work within one's own, whether for the purpose of validation, revision or pointing out inaccuracies or incompleteness, involves the employment of various technical conventions, the most obvious being quotation and referencing the work in question. Writing a history book or journal article moreover rarely involves quotation or referencing the work of one or two scholars. Books dealing with major themes in nineteenth-century Australian history, for example, can make to over five hundred other books and articles - and contain equally as many references to unpublished archival sources.

As many undergraduates in history quickly learn, accuracy in citation is paramount; but in the routine ebb and flow of debate between historians, the accuracy or otherwise of quotations or references are questioned only when by virtue of close acquaintance with a particular book or archival sources a researcher senses that something in wrong. As was well illustrated by Alan Sokal's celebrated hoaxing of the journal Social Text, in 1996, scholarly discourse ordinarily proceeds on trust. [8] We pick up a book, we note that it is published by a reputable publisher, we learn from the title page, acknowledgments or preface that the author is located within a particular intellectual community. In course of reading the work we may note the publication details or location of a source that has been used. Rarely if ever do we take the work to an archive or library and systematically assess the accuracy or otherwise of the references it contains. If we could not trust normative conventions of trust, historical discourse would ground to a halt.

These are admittedly fairly mundane observations. However, looking at the conventions within print that sustain historical practice in this way serves to highlight what we see as the central challenges confronting historians who want to use hypermedia as a research medium. In the virtual realm, we may be seeing the appearance 'E books' but as yet we have only the most rudimentary mechanisms to sustain the conditions of trust enabling the repertoire of practices employed in print-based historical scholarship.

Suppose we set out to create a complex work of historical scholarship in hypermedia. Quotation and references to print-based or archival resources pose no problem. But what happens should one seek to create a work which draws substantially or even wholly upon networked digital sources? As things stand, we face a number of problems. With the print-based monograph, we can be assured that the matrix of information in which the book is anchored, and from which it derives much of its significance and meaning, will remain stable for the foreseeable future. It is likely to be more secure by virtue of bibliographical software and on-line resource finding aids making it easier for writers of books and paper-based journals to ensure they provide accurate references to print-based materials. But about a referential apparatus sustaining hypermedia-based scholarship that rivals the complexity of documentation with which historical books are firmly interwoven? Currently, any such apparatus would be in danger of breakage and fracture as web-sites are re-designed, or moved to new domains - the phenomenon vividly described by some commentators as "link rot". Indeed, in the humanities in the Australian context, there is the further danger of the apparatus progressively eroding as sites the costs of maintenance stretch beyond cash strapped university departments. Compounding the problem is the growing use within educational institutions of dynamic databases, from which generate web-pages are generated on the basis of queries by users. In terms of enterprise-wide information management it may make sense to have information stored by this means, but serving research outcomes dynamically makes it difficult, if not impossible, for creators of related hypermedia resources to link to the information in question.

The current fragility of on-line resources is only one dimension to the problem. There is the question of how, in the first instance, one finds and can be assured of the accuracy or authenticity of digital historical documents and research findings. In the case of books and learned articles, we consult finding aids and locate relevant items by authors, titles or by searching on subject headings or keywords. The speed and accuracy of the task is greatly assisted by libraries and publishers agreeing to use controlled vocabularies to describe the information we seek. Once the researcher locates the item, it only takes a quick glance at the title or contents page of a work to confirm its authenticity, and the real business of appraising its content. By way of contrast, locating historical information in digital forms remains a time-consuming and frustrating business should one venture into the digital landscape beyond the on-line public access catalogues of major research libraries. Then, much of what may one currently dredge up by search engines gives little if any information as to its provenance.

How then could we best tackle these problems within the time and resource constraints of the South Seas Project? By this stage it seemed to us that the way forward lay in strengthening our interaction with librarians and information scientists. Indeed, in the library community in Australia and its overseas counterparts' use of the internet we found a practical example of how complex research could be done virtually. Not only were common protocols for encoding and describing information being developed virtually, but in many instances this research was being applied to enhance the efficiency and quality of research communication, but also to ensure the long-term usability of the resulting information.

By early 1999, we had also discovered and appraised a number of Australian and overseas digital library projects focused on the production of editions of historical texts. Among the most influential in shaping our thinking were the SETIS Project being undertaken at the University of Sydney, [9] and the work of researchers associated with the Library of the University of Virginia. [10] These projects confirmed to us that the best content management and publication system for the project would be one in which our editions of the Cook journals and associated scholarly texts were structured in conformity to the SGML document type description developed by the text encoding initiative (TEI). The advantages of having information so structured hardly needs to be spelt out to this audience.

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Nor, for that matter, should it come as a surprise to this audience that we decided to ensure, through ongoing consultation with the National Library, that South Seas Project system would be designed so that what was produced conformed as far possible to agreed schema for metadata and the permanent naming and identification of information resources in digital forms.

While by mid-1999 we had a confident sense of the development path we would take, we had also become aware of journeying some considerable conceptual distance from the historical research community, as is perhaps well illustrated by two anecdotes. The first concerns a historian, who had recently contributed to a collection of essay published electronically by a university department. Accordingly to the computer technician who told us the story, he had been called into the office of the historian, who was seated before his computer in a foul mood. The publication to which he had contributed had been on-line for some weeks; but why, he testily demanded, had his article not appeared at the very top of his screen after searching his subject of expertise through a leading commercial search engine. Why, in fact, was his article not even listed. Our second anecdote is, from our perspective, slightly more disturbing. Addressing a group of postgraduate students, the historian explain that the best thing about the computer was that it has allowed for a new measure of aesthetic control over the writing of history, by allowing researchers to determine exactly what their writing would look like when it appeared on the printed page.

We tell these anecdotes as in their respective ways they point to the level of unfamiliarity with the conceptual and technical issues associated with electronic publication current existing within the historical profession. It could be objected that it is not the business of historians to concern themselves with the mechanics of publication. Their proper concern is with reconstructing the past. Yet, while this may once have been so, it is no longer the case. Historians cannot ignore the processes by which their research comes before its audience. As few need reminding, the economics of publication has become such that much of the burden of preparing a book or article for publication now falls upon the researcher. In this respect, the second of our anecdotes reflects the changing fortunes of historical publication, albeit in a way that a virtue is made out of what, for most historians, has become a necessity. In the case of journal articles, the economics of print-based publication is now so dire that many paper-based Australian journals in the humanities have no option but to go electronic. [12] Moreover, the increasing work-loads amongst humanities researchers and state of departmental budgets are such that much of the burden of preparing articles for electronic publication will increasingly be done by the authors themselves. And this will require them to think very differently about how they prepare and describe documents destined for the web.

Which leads us to what is most troubling about the observation by the second historian. Using one of a number of sophisticated proprietary word-processing programs, writers can be assured that what they see on the screen is what they will get from even a relatively cheap laser or bubble-jet printer. But this remains the case only as long as they remain in the world of print-based publication, or opt to have their work published electronically in proprietary formats that drastically reduce the usefulness of the information for scholars who choose to undertake electronically the kinds of critical practices they once may have done through the medium of print.

Before going further, we feel it important to stress that we use the word choose decidedly. Too often an easy and misleading dualism has intruded on debates as to whether scholarly communities in the humanities should "go digital". [13] We certainly do not believe that communities such as professional historians must forsake print for electronic modes of communication. Nor do we see any value in discussions which compare and contrast electronic communication and print in ways that more or less imply one or the other is superior in stimulating modes of knowing and reflection essential to the human condition. Our premise from the outset of the South Seas Project has been that the evolution of networked digital communication presents challenges that cannot be satisfactorily addressed by presuming the emergence of the virtual realm must necessarily displace, or undermine, established modes of communication. Rather, we believe that current trends in the application of digital technologies, and the history of communication, suggests that scholarly communities will need to identify the strengths and weaknesses of the virtual environment, and then harness those strengths to disseminate of scholarly knowledge in ways best calculated to ensure its reception. What is occurring is less a revolution than a phase shift with complex origins, that is characterized by the addition of potent new forms of communication to the variously interconnected means by which we create, exchange and digest information. [14] Nothing necessarily will lost, but the relative use and effectiveness of particular modes of communication are changing, and in the process the nature and weight of their social currency is likely to be transformed.

In the case of the Australian historical profession, the increasing integration of networked information resources into our patterns of communication does not spell the death of the book. What it does mean - should current trends continue - is that audiences who once may have read history books and articles will become increasingly inclined to satisfy their information needs, and curiosity, through networked resources.

This shift could be one that historians exploit strategically to revive interest in books. Though what seems more probable on the basis of current trends is that historians who seek print-based publication will find themselves writing books that are shorter, engage with topical subjects, and are written in a style likely to appeal to audiences well beyond their circle of peers. It may be that what we will see will be hybrid or flexible publication, in which a study appears in print, but may also exist in a digital form that is longer, addressed more to professional colleagues and for whom it provides extensive quotations, references and possibly even raw data from which the researcher has drawn their conclusions. There will also be historians who opt to focus their energies on publication in the digital environment, and who may - as has already happened in a small number of cases - subsequent refashion their virtual work for print publication.

But regardless of the exact relationships between print and electronic publication that emerge, the ease with which historians can exploit the virtual environment will depend on them become more familiar with the technical foundations for digital landscapes being created by librarians and information scientists. They will need to see that the principal advantage of computerization for the historian is not the ability to put words pages as authors would wish, but the facilitation of processes for creating documents so that they can be seamlessly integrated within digital libraries, easily found and delivered to readers, as a 'print on demand' book, or as an electronic document that has been created so that it can readily be subjected to critical use and appraisal. Once history postgraduate training involved attending seminars on theory and methodology. Now many also attend sessions on writing for more diverse audiences. We would do well to think of a future in which postgraduate training includes understanding how to prepare historical scholarship for the virtual environment.

In our work on the South Project Seas Project, we hope to make a small but significant contribution to bringing about a higher degree of acquaintance of what making history with digital media will involve. This we hope to do primarily by creating a content management and publications system which is relatively easy for historians to use, provided that they have some basic understanding of how web pages are constructed with HTML. At some point in the development path, we will distribute the system to interested researchers, with whom we would then seek to improve its functionality.

Technically speaking, the system will ensure the project's resources are produced in conformity to those modes of encoding and describing historical documents which are clearly gaining greatest currency with major research libraries and cultural institutions. Where possible, this system will automate the process of creating metadata and of course the wealth of hyperlinks any complex web-based resource requires. It must also allow for new resources to the site to be integrated automatically.

In mid-1999, we happened to discuss this strategy with Gavan McCarthy of the University of Melbourne's Australian Science and Technology Heritage Centre. McCarthy suggested that we evaluate two software solutions to the cataloguing needs of archivists and heritage managers that he and Joanne Evans, the Centre's Deputy-Director, had built. These were the On-Line Heritage Resource Manager (OHRM) and a web authoring tool (WARP) designed to automate much of the tedious process of creating digital surrogates of print-based monographs.

It did not take long to realize that, with some modification, the tools would serve us as a working prototype for the system we wished to develop. We had been inclined to develop a system that would be interoperable with the large object orientated databases which lay at the core of many digital libraries currently under development. But after consultation with programming specialists we were beginning to question whether it was possible to do so within the resources available to the project. Also, testing the ORHM convinced us that there was a lot to be said for building a content management system based on a relational database, given the ease with which relationships could be constructed between portions of text.

The points of synergy between our respective projects are such that in August 1999 we agreed to collaborate through 2001-2 on transforming the OHRM and WARP into an open-source system which could easily be modified to suit the needs of a wide spectrum of historical researchers.

By December of this year we plan to have used the current prototype of the system to place on-line an edition of the texts of Cook's Endeavour journal, the journal kept by Joseph Banks, together with the 1773 synthesis of the two journals produced by John Hawkesworth. This edition will include specimen annotations, notes and scholarly essays. We are hoping that this exercise will allow us to gain practical insight into how the system might then be subjected to further refinement as we move towards adding hypermedia resources incorporating interactive maps and video files. Hopefully this exercise will also provide insight into the challenges of moving from proprietary software (the system is current based on Microsoft's Access 97) to an open source-based system. Even so, our sense is that the prototype could serve our needs in terms of content creation for some time to come, and that migrating content to the new system will be relatively simple. Hence problems in the evolving the final version of the system should not hinder the work associated with producing content.

Despite the clear the clear progress we are making with the South Seas Project, a number of our colleagues in remain skeptical about the potential of digital media for history teaching. Some remain of the view that hypermedia can never replace what they regarded as the more 'complex' or 'deep' modes of historical inquiry undertaken through conventional print-based media. The web can never replace the book. The web might even be destructive of historical sensibilities. [15] We have already stressed that in this project were are not championing hypermedia as an intellectually superior medium for engaging with the past. Nor do we did discount the value of conventional modes of historical practice such as the monograph and the scholarly article. Quite the opposite. We have consistently argued that information in print and manuscript forms will remain central to our efforts to understand the past. [16]

However, were are conscious of the intensively visual nature of the web, and intrigued by how modern western modes of representing the past imbue the written word with virtues which have readily been accorded to other modes of communication in earlier historical times, and other cultures. [17] In the South Seas Project, we are particularly concerned to compare and contrast the meanings voyaging imagery came to acquire in Enlightenment intellectual circles. And in doing so we want especially to illuminate the cultural contingencies which have disposed historians to treat images as inferior in truth content to the written word, unless they have been produced through techniques such as photography which have been seen as constraining their range of meaning to scientifically mirroring reality. Further, we are interested in questioning what the cultural trajectories of voyaging imagery - its production, circulation, reception and often its reproduction in mutated forms - has to say to us about the social nature and historical antecedents of the textual practices and imaging technologies which characterize the virtual environment. [18]

Improving the integrity and archival stability of the resources associated with 'South Seas' will enhance the project's educational value, and not just in relation to my own teaching. The formats in which the resources will be placed opens up the prospect of them being easily integrated into other virtual teaching and learning ventures within Australia, and overseas. Unlike many Australian senior education managers, I remain firmly of the view that our goal in universities is to create information resources of value beyond economic utility. And to do this we need to take advantage of our traditions of commitment to sharing knowledge, and collaborating to make the most of the limited resources we have.

But as we have argued in this paper, all this presumes first getting right some basic but essential processes for creating and managing historical information in digital forms.

In Australia, these remain difficult times for university-based historians. Conversations at conferences and seminars easily fall into discussions about how best history might survive. Some say we could have done more, sooner, to negotiate the changes to Australian higher education. In a provocative address to the Australian Historical Association at its 1998 conference, for example, Alan Ryan argued that we have proved 'singularly inept in adapting to changed circumstances. [19] Our view is that the accusation is inaccurate and unfair. Yet, we might merit the charge if we do not take advantage - despite all the attendant difficulties - of the possibilities opened up by networked communications.

Notes

1. http://www.anu.edu.au/~culture

2. http://www.jcu.edu.au/aff/history/ Please note the Journal is currently undergoing redesign to render the publication of work more efficient.

3. H-Net has grown into an interdisciplinary organisation of scholars dedicated to developing the enormous educational potential of the Internet and the World Wide Web. The computing heart of H-Net resides at MATRIX: The Center for Humane Arts, Letters, and Social Sciences OnLine, Michigan State University, but H-Net officers, editors and subscribers come from all over the globe. See http://www.h-net.msu.edu/

4. See Delany, Paul, and George P. Landow. 1991. *Hypermedia and literary studies, Technical communications*. Cambridge, Mass.: MIT Press; also Landow, George P. 1994. *Hyper text theory*. Baltimore ; London: Johns Hopkins University Press.

5. Here, Turnbull's think was greatly influenced by the work of Heather Goodall and Karen Flick. See http://www.transforming.cultures.uts.edu.au/Heather/hg-Aboriginal.html

6. See the previous reference.

7. The story of the journal's acquisition by the library is told in the forthcoming centennial history of the National Library of Australia edited by Peter Cochrane.

8. A good place to begin exploring Sokal's hoax and its implications is http://www.physics.nyu.edu/faculty/sokal/index.html#papers

9. SETIS is the Scholarly Electronic Text and Image Service at the University of Sydney Library. Australian texts are encoded according to the Guidelines for Electronic Text Encoding and Interchange (TEI-2) and are converted to HTML as users. See http://setis.library.usyd.edu.au/

10. The Electronic Text Center at the University of Virginia combines an on-line archive of tens of thousands of SGML and XML-encoded electronic texts and images with a library service that offers hardware and software suitable for the creation and analysis of text. http://etext.lib.virginia.edu/

11. However, for those who require further information, see http://etext.lib.virginia.edu/TEI.html

12. The magnitude of the problem can be gauged from publications by the National Scholarly Communications Forum. See http://www.asap.unimelb.edu.au/nscf/nscf.htm

13. This point has been cogently made by Jerome McGann in various essays. See

http://jefferson.village.virginia.edu/~jjm2f/home.html

14. A point I discuss at greater length in my forthcoming paper to the 2000 National Scholarly Communications Forum.

15. Perhaps the most seductive and influential exponent of this style of argument has been

16. Turnbull, Paul. 1997. 'The Electronic Journal of Australian and New Zealand History'. *Australian Historical Association Bulletin* (84):23-30.

17. On this point see especially Thomas, Nicholas. 1997. *In Oceania: visions, artifacts, histories.* Durham, NC: Duke University Press; and Douglas, Bronwen. 1998. *Across the great divide: journeys in history and anthropology, Studies in anthropology and history* ; v. 24. Amsterdam, Netherlands: Harwood Academic Publishers.

18. Here, our thinking has been greatly influenced by Stafford, Barbara Maria. 1996. *Good looking: essays on the virtue of images.* Cambridge, Mass.: MIT Press.

19. Ryan, Alan. 1998. 'Developing a Strategy to 'Save' History'. *Australian Historical Association Bulletin* (87):39-49.

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ALIA 2000

Proceedings

Making the Most of the Web

Belinda Weaver

My talk today will be more about personal resource discovery. As a reference librarian and an Internet trainer, I have begun to rethink the way I use and teach the Web. When the Web first came along, it was hard to get a handle on it. We needed search tools to find what was good on the Net because it wasn't organised in a way we could relate to. Many sites - think government - had not embraced the Web in the way they have now. Sites like Yahoo developed very quickly because there was such a demand for navigation round the Web.

But things have changed, and changed mightily.

There are all kinds of different search tools now. There are search tools for newspaper archives, there are search tools for newsgroup discussions. There are subject pages - both specific and general - and wonderful subject gateways and portals. There are finding tools for images and music and movies. There are search engines and meta-search engines. Even the search engines we think we know keep changing on us.

So it's a shifting environment - one it's impossible to keep up with.

The good news is you don't have to.

Search tools on the Web are like fashion in clothing. Something new is always being announced, the hype gets intense, and a certain anxiety is generated. You feel you'll miss out on something if you don't get on the bandwagon.

But what is really new in searching? Google was new. But that was launched in beta nearly two years ago. Despite hyping and size-boasting (we're the biggest), nothing better than Google has come along since.

And even Google isn't that wonderful. Can it get you the exact thing you want, when you want it?

I don't think so.

The Web is not an unstructured muddle - it only seems that way when you search and results are returned in a meaningless jumble. I hardly ever search - I think it's an almost total waste of time - yet I find what I want 99% of the time. How?

I think like a reference librarian. Even in the new world of the Internet, the key questions are what they've always been -

- What are you actually looking for?
- Who is likely to have the information?

One you know those, you can FIND THE SOURCE. (In the old days, it might have been a reference book - a Whitaker's Amanack, or a Statistical Yearbook. These days it's more likely to be a Web site, or an online database.)

It's perfectly possible to adapt existing reference-style thinking and practices to Web work. The main thing is not to panic, and not to be sucked into hype-anxiety.

This approach WORKS.

Example

As a newly qualified reference librarian, I was once stumped by a user asking about the most frequently used letter in the English alphabet. I wanted to succeed - he was handsome and I wanted to impress him. I also thought I had to seem to know everything, had to be infallible. It takes time to feel comfortable enough with what you do know to admit what you don't know. I panicked about this request, but when I asked myself - who would need to know that? - my mind started working. I thought codebreakers. I found a book on codebreaking and I had my answer.

I still operate in the same way. If someone asks me for, say, information on genetically-modified food - I think CSIRO. The Federal Government would also have information. Female circumcision - that's a human rights issue - what about trying Amnesty International or other human rights organisations? Digital TV and datacasting - I'd try the Australian Broadcasting Authority and also the government for latest news, press releases and so on. Tourism numbers - the ABS, obviously. Reconciliation - I'd try ATSIC and the Council for Aboriginal Reconciliation. The latest on Kosovo? I'd look at BBC news archives, online Balkan newspapers and possibly the UN High Commissioner for Refugees.

You could use search engines to try find these kinds of things, but (a) the link returns are too jumbled, (b) the top links (which are probably all you'd want to look at) may be worthless, (c) there's no guarantee that you will find what you want and (d) it takes too long to work out whether you can trust what you find. You don't have that problem with known sources - if you're looking for information at a government site or a reputable organisation, then you know whom you're dealing with.

Search engines exist to make money from advertising. Like banks, they're more interested in profits than services. So don't feel guilty about deserting them. I don't. It's like the moment you give up the desire to be in fashion - first there's anxiety, then relief. Internet anxiety is created to make money for someone. Don't be sucked in.

I also think it's dangerous to teach our users that they can press a button and out will come the answers they seek. What about provenance of information - the key to credibility?

My approach is not so much about focusing on questions, but focusing on answers, and who is likely to have those answers.

I was recently asked to find Senator Herron's submission to the Stolen Generations inquiry. Two different librarians had spent more than an hour searching for it. They had found references to it, critiques of it, but they hadn't found the thing itself. I said: 'Give me five minutes'. (We set ourselves these silly challenges all the time to keep things interesting.) And I found the submission. Not by searching, but by going to the Senate Committees Web page and tunnelling down through there.

The search tool I used was not a computer or a robot or a spider, but my own brain, my own memory. I'd been to the Parliamentary site before. I'd linked to Parliamentary committees through my Web pages. So I knew the information was there. But even if I hadn't been to the site before, I would still have tried there first. You want something from government, you go to government to look.

It makes sense.

Our brains, our memories - these are the tools librarians need to concentrate on. Internet search tools are improving all the time, but they are still very blunt instruments. Our brains can do a sharper, more focused job.

What librarians need is not so much Web knowledge, but GENERAL knowledge - knowledge about the way the world works and where information actually comes from. That means knowing how the government works, knowing about organisations, knowing about who publishes, and why. When you're looking for sources, instead of 'information', it all gets a LOT easier.

To locate sources, I use existing expertise. A lot of librarians out there have done a huge job in organising, listing and annotating resources. Why not use their expertise and follow the links they have made? Again, it makes sense.

These days, most sites have the following sections -

- About us - their mission, goals and objectives
- Contacts - I often use the provided email links to ask for information
- Publications - you'll generally get a list, but you may also get many publications in full text
- Services - what they can do for you
- Search facility

So you can already find out a lot just by visiting one place. The links it will provide will swing you on further. And it's much quicker to use search facilities at the site where information is likely to be found, than to waste time using search engines to locate it. The Senate Committee report is proof of that.

If you try to use a search engine to locate a report, you get links where the report is mentioned, announced, criticised, but it's often slow, frustrating and time-consuming to GET TO THE REPORT itself. So don't search.

I use existing structures to help me understand the Web.

The main structures I use are domains. (You may want to work out your own mental models). There are only six domains, you'll mainly use four - GOV COM EDU ORG. Find the main addresses in each and use them as your springboard. Use the handout I've given you today.

To find sources in the .gov domain - you only need two addresses

- Australian Government Entry Point - much better now as an entry point as the metadta added to records has improved searching no end
- Governments on the WWW - tremendous site for finding governments elsewhere - includes links to governments, departments, agencies, embassies, coutnry data, election information, lanuguages, the flag, geography etc.

Really get to know these - have a really thorough look.

Finding sources in the .org and .asn domain. There are several good online directories, such as the UIA, Social and Political NGOs, and others. It's also worth looking for professional organisations in the subject you're interested in. They often have useful links to other similar organisations. Organisations really are a great source of current information. I would suggest you find the main organisations in your topic and get to know them thoroughly. To find them, try the online directories, and try Virtual Reference Collections. My own Australian journalists' guide will furnish more. And don't forget the United Nations! It (and its subsidiary organisations and agencies) is a major publisher of demographic, economic, health, educational and statistical information and there are a range of tools now that make using the UN sites less daunting.

Finding sources in the .edu domain. Use Braintrack Worldwide Unis. They list just about every college and university in the world, right down to obscure American colleges. You can get listings of schools in sites like Yahoo.

Finding sources in the .com.au and .com domain. Think about what you want - a balance sheet, background articles, an annual report, the latest share prices, market research. Once you know what you want, it's easier to know where to look.

What about keeping up with new stuff?

I use a range of tools to keep up to date with new materials. I maintain a What's New on the Web for the University of Queensland Library. You too could use similar tools to stay in touch with new materials. It's quick to scan them and you can easily filter out the stuff that isn't relevant.

- Scout report (x4) (archived at Scout Signpost, so another good place to search for high-quality new resources)
- Internet Resources Newsletter - an academic listing from Heriot-Watt Uni in Scotland
- EdNA what's new - good because of the themed Australian content
- Researchbuzz - news and information on search tools
- LIIWEEK - email services from Librarian's Index to the Internet
- Journal current awareness - scan the Web columns in professional journals in your topic, as well as library-oriented ones such as Weaver's Web in inCite

You can find links to all these through the UQ Library page What's New on the Web - see handout.

There are other tools you need to be up with - find them through the UQ Library search tools page.

- Software finders (Tucows) for finding plugins and helper apps
- Online discussions (Deja) - for searching past postings to USENET news
- Databases (Invisible Web) - MEDLINE, ERIC, Agricola, and other bibliographic, statistical, full-text, legislative, etc. The search engines can't see inside these databases and they are very rich resources for librarians and researchers

If you absolutely, positively have to search ...

Start with a subject page - when you know absolutely nothing about a subject and need a start (try BUBL and WWVL)

Use a search engine - when you have a name or long phrase to find - use Google or FastSearch

My steps to success

- Try a known source
- Try a good subject page such as WWWVL orBUBL
- Then search if you must

Search engines will get better and better. That's good. But don't forget that your brain is the best search tool you'll ever have.

Web Addresses

THE UNIVERSITY OF QUEENSLAND Library
We link people with information

Government domain (.gov sites)

- **Australian Government Entry Point**

  http://www.fed.gov.au/

BEST COPY AVAILABLE

- **Governments on the WWW**

http://www.gksoft.com/govt/en/

Educational domain (.edu and .ac sites)

- **Braintrack Worldwide Universities**

http://www.braintrack.com/

Organisations domain (.org and .asn sites)

- **Guide to Internet information sources for Australian journalists - organisations**

http://www.uq.edu.au/jrn/ozguide/orgs.html

- **World Directory of Think Tanks**

  http://www.nira.go.jp/ice/tt-info/nwdtt99/

Commercial domain (.com and .co sites)

Australian information

- **Australia on Display**

  http://www.austrade.gov.au/AOD/index.asp

- **Australian Financial Services Directory**

  http://www.afsd.com.au/

- **Stock Exchange**

  http://www.asx.com.au/

- **Australian Securities & Investment Commission**

  http://www.asic.gov.au/

- **Annual Reports (Top 500 Australian companies)**

  http://www.connect4.com.au/

US & International information

- **Hoovers**

http://www.hoovers.com/

- **Corporate Information**

  http://www.corporateinformation.com/

- **CEOExpress**

  http://www.ceoexpress.com/

My own sites

- **Guide to Internet Information Sources for Australian Journalists (OzGuide)**

  http://www.uq.edu.au/jrn/ozguide/

- **Foreign Correspondent**

  http://www.uq.edu.au/jrn/fc/

- **Globalisation**

  http://www.uq.edu.au/jrn/global/

University of Queensland Library - selected pages

- **Home page**

  http://www.library.uq.edu.au/

- **What's New on the Web**

  http://www.library.uq.edu.au/internet/new/webnew.html

  includes links to a selection of 'keeping Current' tools

- **Virtual Reference Collection**

  http://www.library.uq.edu.au/internet/vref.html

  Dictionaries, encyclopaedias, translators, directories, biographies ...

- **Internet Search Tools**

  http://www.library.uq.edu.au/internet/schhints.html

Subject pages, search engines, meta-search tools, newspaper archive search tools, online discussions, Web site announcement archives, business and government search tools

Proceedings

The Information Professional of the Future: What skills will be needed and how will they be acquired?

Aileen Weir

In my opinion, many of the essential skills that will be required of the information professionals of the future will be similar to the skills of traditional librarians of the past, but we will be applying them very differently. As Jose-Marie Griffiths said so eloquently in her keynote address, it is not *what* we do that will change, it is *how*. There is no doubt that the internet revolution has had a dramatic impact on how we do our jobs and has greatly expanded the range of skills we need to be effective.

To me, it is primarily the complexity of what we do that has changed. Balancing the traditional print resources with the burgeoning electronic environment in an era of shrinking budgets and very high user expectations is the challenge facing librarians today. We need to carve out a place for ourselves in an environment that increasingly focuses on the end-user. The belief that 'everything is online' and 'instantly accessible' is one that librarians face constantly. It is my opinion that one of our roles is to translate that promise of technology into reality.

So what skills can we offer?

Since graduating from library school, I have worked in a public library, a parliamentary library and am now at the Australian National University. Even in that relatively short period of twelve years, the tasks that I have done in each environment have changed significantly. However, I would argue that the essential *skills* I have needed have not changed as drastically as one might think. I believe we can continue to capitalise on our traditional strengths.

A key role for librarians will still be filtering or sifting information. The 'information overload' that most people feel works in our favour. Paul Twomey, in his keynote address, talked about two categories of end-users - the 'do it for me' group and the 'let me do it myself' group. In my opinion, librarians have something to contribute to both those groups.

Our strengths in organising information are usually recognised by organisations when they approach the challenge of developing an Intranet although I think librarians face a marketing challenge here, to convince IT specialists that we do have something to contribute. Traditional library cataloguing may see a decline but metadata indexing of web and Intranet resources, which use the same principles, will take its place.

Excellent communication and interpersonal skills have always been important but are increasingly essential as librarians are called upon to explain the complexity of electronic resources to their clients. Information literacy, with its increasing emphasis on developing self-sufficiency in the end-user, will solidify the role of librarian as educator. In all environments, we hear about developing 'partnerships' which requires good listening, communication, diplomacy and negotiation skills.

What is the role of formal library education?

I graduated from the University of Toronto, Canada in 1988 with a Master of Library Science degree. When I was still living in Toronto, I was a member of the Faculty of Library and Information Science (FLIS) Alumni Association and was involved in the Faculty's decision to change the name of its degree in 1990. The word 'library' no longer appears in the Faculty's name (Faculty of Information Studies <http://www.fis.utoronto.ca/index.htm>) and the degree it now offers is the 'Master of Information Studies'. This was a conscious decision by the Faculty to distance itself from the traditional image of library work and to attract students interested in marketing themselves as 'information professionals' by offering more courses with a technological focus.

In preparation for this discussion, I visited my alma mater's website to look at its current curriculum. Some of the language used to describe the courses has changed and quite a few new electives have appeared, but the core course requirements look very similar to the courses I took. Required courses in the 'Library and Information Science' stream include:

Management of Information Organisations - administration skills

Information Resources and Services - basic reference skills

Intro to Information Technology - basic computer programming/data analysis

Intro to Bibliographic Control - basic cataloguing skills

Online Information Retrieval - intro to electronic databases

Research Methods - research methodology

Information and its Social Contexts - economic/political/social impact of society's emphasis on information

I am not trying to imply that the courses have not been updated to reflect the dramatic changes that have occurred in libraries, as I am sure that they have. A significant number of the elective courses focus on current issues such as electronic publishing and Intranet design. I am also aware that the Faculty at the University of Toronto fosters good relationships with their alumni and actively solicits feedback from working professionals which I am sure is incorporated into the curriculum content. However, what it does illustrate to me is that the Faculty still believes that these are the core skills that an information professional must have, regardless of how they might end up applying them. And I would tend to agree.

In my opinion, one of the real difficulties facing library schools today is image. The term 'librarian' connotes an antiquated understanding of what we do and inadequately represents our capabilities. Overcoming this to attract potential students is a real hurdle.

Continuing Education

We hear the terms 'life-long learning' and 'knowledge nation' in our daily conversation. This orientation towards a continual upgrading of skills, especially technological skills, is a requirement of most working professionals and is certainly true in our discipline. No information professional graduating today assumes that they have done all that is required to last them until they retire. Many graduates will combine their library degree with another higher degree such as business administration or IT. Frequent and diverse on-the-job training is becoming an essential component of working life and the importance of devoting resources to this is now recognised by senior library managers. Involvement in professional associations is another method through which information professionals can remain current. In addition to conferences and formal training opportunities, the opportunity to network and learn from others is a vital component in our rapidly changing professional world

Aurora Leadership Institute

Like many other participants, I feel that the opportunity to attend the Aurora Leadership Institute is an experience that will have a long-lasting professional impact on me. The content of the program is designed to encourage self-knowledge and to equip the participants with skills to effectively manage organisational change. One of the most influential and inspiring components of the Aurora program is its emphasis on mentoring.

Crucial to the success of the program is the atmosphere of trust that is created over the five days of the Institute during which library leaders openly share their successes and failures. Their willingness to expose the highs and lows of their careers for the benefit of less-experienced librarians was a powerful example that I hope I will emulate as I progress in my own career.

The Future?

So what other skills will the successful information professional of the future possess?

As I have already stated, I believe that traditional library skills still have a place but we must also seek out and encourage other characteristics and skills. These include:

1. Adaptability - Information professionals must be able to cope with constant change
2. Creativity - Resolving many challenges will require ingenuity and lateral thinking
3. Willingness to take risks - Not a characteristic normally associated with librarians
4. Self-starters - Much of the responsibility for self-improvement will fall to the individual
5. Project management skills
6. Change management skills - Both essential in today's environment
7. Interpersonal and communication skills - Librarians are the 'human face' of technology for many people and, as we progress to be managers, we need good people skills to help both staff and clients adjust to the changes facing them
8. Sense of humour - Last but not least, this is an essential component of any job!

Somehow, library schools need to structure their curricula so that the seeds of these attitudes and skills can be sown. Continuing education, with a strong emphasis on mentoring, is also essential. The possible career paths open to library school graduates have widened dramatically in recent years and will continue to do so. If the information professionals of the future are equipped with these characteristics and skills, I believe they will be capable of meeting the numerous exciting challenges ahead.

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Levelling the Playing Field: The Role of Libraries in Providing Online Services for People with Disabilities

Kirsty Williamson, Steve Wright, Don Schauder, and Louise Jenkins

Information and Telecommunications Needs Research, Enterprise Information Research Group and School of Information Management and Systems, Monash University and School of Information Studies, Charles Sturt University

And

Larry Stillman, Accessibility and Evaluation Unit VICNET

How can people with disabilities more easily share in the brave new world of instant information and communication offered by the Internet? A recent study by the State Library of Victoria/VICNET and Information and Telecommunications Needs Research group (ITNR) - a joint venture by Monash and Charles Sturt Universities - has addressed this question in the context of Australian public libraries. The project is funded by the AccessAbility Program, Commonwealth Department of Communications, Information Technology and the Arts and sponsored by AAPT Limited. Key objectives include the selection of a core set of adaptive equipment, suited to people with a range of different disabilities for use in public settings, particularly in public libraries; the development of related training for users and librarians alike; and the identification of standards and policies for achieving appropriate levels of online public access by disability groups[1]. This paper will set out the project's findings, with particular emphasis on the role that training can play in improving online access in public libraries.

It has become a commonplace in academic and popular literature that the Internet and other online services open up windows of opportunity for people to participate in the new information age. (See, e.g., the Broadband Services Expert Group's *Networking Australia's Future* 1995;St Clair, Muir and Walker 1996; Johnson and Moxon 1998). More than this, many writers (e.g., Newell 1994: Astbrink 1995; Royal National Institute for the Blind 1998; European Commission DGXIII, n.d.) suggest that such new technologies offer particular benefits and potentialities for people with disabilities. A prevalent view is that the opportunities for communication and information acquisition are likely to be significantly expanded through online services, especially for people who are isolated by their disabilities. This is particularly the case in rural Australia, where distance often exacerbates isolation (Wolstenholme and Stanzel 1997). The Australian Bureau of Statistics' most recent *Survey of Disability, Ageing and Carers* (1998) estimated that 19.3% of the Australian population (or 3,610,300) persons had a disability. Clearly, the possibility that the Internet might improve the information access of such a large section of the population, many of whom have been marginalised by long-established forms of media, is a matter of considerable social importance.

Enthusiasm has prompted some extravagant claims for the new technologies. More than one writer has asserted that the Internet and related media possess, in their own right, the power to undo problems of social inequity (Harris 1997, cited by Blake 1999, p.12; Seale 1998, p.260). The problem extends further than mere hyberbole, however. It is also important to note the issues that are not being addressed in any systematic way at present. For example, a thorough literature search revealed no major study of the information needs and information-seeking behaviour of people with disabilities, either in Australia or overseas.

Given this omission, and ITNR's longstanding emphasis upon user-centred approaches to research, we chose to set the evaluation of adaptive equipment within the broader context of the self-defined needs of people with disabilities. The testing of equipment by users was carried out in conjunction with structured interviews aimed at establishing each participant's level of use of a range of equipment from computers to telephone answering machines, as well as knowledge of online services. Other questions addressed users' information-seeking and communication behaviour, including likely topics of interest for Web searches. This work was complemented in two ways: by sessions with participants trialling approaches to training, related to the equipment and software which had been selected from the first stage of the project; and by focus group discussion and demonstrations involving public library staff. The various sessions have generated rich data concerning the information-seeking and communication behaviour of people with disabilities, as well as the utility to them of particular pieces of equipment and software, as well as key training issues pertinent to the use of selected equipment and software in a public library setting.

Method

Nine public libraries were involved in the project. Eight were from Victoria; the ninth, the Wagga Wagga Library, is the headquarters of the Riverina Regional Library. The latter library service was included because of the involvement of Charles Sturt University in ITNR. The selection of Victorian libraries was based on the requirement to include a range of different public library types and a mix of socio-economic, rural and urban areas. Participants were found mainly through community organisations, particularly those which work with people with disabilities, e.g., Access for All Abilities, a joint project of the Moonee Valley and Brimbank City Councils funded by the Victorian Department of Sport and Recreation, the Arthritis Foundation of Victoria, and the Royal Victorian Institute for the Blind.

The following sections describe the sample - including gender, age, the disabilities involved, and the locations where participants took part in the project - along with an overview of the components of the research, including the instruments used for data collection.

The Sample

The sample consisted of 85 people with disabilities, aged 18 and over, of whom 43 (50.6%) were males and 42 (49.4%) were females. Fifty of these participants were involved in the project's initial evaluation of equipment, while another 35 took part in the later sessions which were concerned with developing methods of training for the equipment to be recommended by the project.

In addition, 17 public librarians took part in focus groups which discussed issues concerned with training (both for librarians and people with disabilities). This gives a total of 102 participants who took part in the project.

Age of Participants

Table 1 shows the age groups of participants.

Table 1

Sample Participants by Age

Age group	Number of participants	% of participants
18 - 24	16	18.8
25 - 34	9	10.6
35 - 44	14	16.5
45 - 54	13	15.3
55 - 64	9	10.6

65 +	24	28.2
Total	**85**	**100.0**

As can be seen from Table 1, the 18 - 24 age group is larger than might be expected, probably because of the large number of people in that age group who have intellectual disabilities and whose education and training is being extended through organisations such as Leisure Action, a Division of the Spastic Society of Victoria. The largest group is in the 65+ age bracket, for two reasons: the common incidence of disability amongst older people, and the broader age span involved.

Location of Participants

Of our participants with disabilities, 50 (58.8%) took part at public libraries in the Melbourne metropolitan areas (Box Hill, Maribyrnong, Port Phillip, State Library of Victoria, Sunshine), while 35 (41.2%) were involved at regional, rural or semi-rural libraries in Victoria and NSW (Bairnsdale, Cranbourne, Hamilton, Wagga Wagga.).

Disabilities

The project sought participation from people with a variety of disabilities, both physical and intellectual. Thirty-seven participants (43.5%) had intellectual disabilities often resulting from Down's syndrome or cerebral palsy, which sometimes caused physical disabilities as well; 48 participants (56.5%) had physical disabilities such as low vision, low hearing, or arthritis. Table 2 sets out the disabilities in the sample in detail.

Table 2

Sample Participants by Disability

Disability	**Number of Participants**	**% of participants**
Intellectual	21	24.7
Sight	17	20.0
Intellectual/physical	16	18.8
Physical	14	16.5
General ageing	4	4.7
Hard of hearing/sight	4	4.7
Hard of hearing/ physical	2	2.4
Total	**85**	**100.0**

Data Collection

Qualitative data methods were used so as to capture the perspectives of the participants. Action research, which enables fieldwork to be adjusted so that the best possible solutions to problems can be obtained, was also used where this was appropriate - for example, in the testing of equipment with people with a great range of disabilities, and in trialling appropriate training for the equipment to be recommended.

There were two major stages to the data collection. The first stage involved the evaluation of a range of different equipment considered suitable for public settings; the second saw the development of training focussing on the equipment we had decided to recommend as a result of the evaluation stage.

Stage 1

There is a very big range of adaptive equipment available, not all of which we could test. It made sense to seek the advice of experts. Both international and national experts were consulted, e.g., from the Assistive Technology Centre, Lunenberg, Nova Scotia, the Independent Living Centre (Yooralla Society of Victoria) and Regency Park Rehabilitation Engineering in South Australia, from where we hired the equipment which we tested. The AccessAbility Online Resource was consulted for ideas on good products. While we also searched for reviews of products, the advice of experts has proved to be the most valuable source for our decision making. Table 3 sets out the adaptive equipment and software tested in the project and the numbers of participants who were involved in each case. In some cases more than one item was tested with a particular participant, resulting in a higher total than would be expected for the 50 participants who were involved in the first stage of the project.

Table 3

Adaptive Equipment and Software Tested in the Project

Equipment or software	**Number of participants**
Intellikeys, a large keyboard with a selection of overlays suited to different disabilities	17
Enhancing Internet Access (EIA), a touch screen and simplified browser	13
Opera browser, providing enlarged and enhanced text	12
Key guard for standard keyboard	7
Switch adaptor for standard mouse	5
Anir mouse, an alternative mouse which looks like a joy stick	5
Big keys, an alternative keyboard, with large bright keys	3
PC Trac Deluxe/Kids Trac (Microspeed trackball)	3
PW Web Speak, a screen-reading program	3

Genius trackball	2
Head stick	2
Small PC keyboard (Cherry keyboard)	1

In evaluating the equipment and software, data collection began with an interview seeking detailed background information about the lives of each participant, especially in relation to their disabilities, their information needs, their recreational interests and their experiences with technology. Each participant was then tested on the standard equipment, before being introduced to, and tested on, at least one piece of adaptive equipment or software. The tests followed a structured procedure. The session concluded with further interview questions which focused particularly on participants' reactions to their experiences on the Internet - both with the standard and adaptive equipment - and the recording of the interviewers' observations on their participants' disabilities and degrees of comfort with the Internet.

After each group of interviews, the interviewers/observers (mostly working in pairs) recorded their comments on the performance of the equipment, its flexibility across disabilities, and the problems it presented. Librarians' observations, especially their views on the practical issues involved in offering each piece of equipment, were also recorded. The data were analysed by NUD.IST (Non-numerical Unstructured Data. Indexing Searching and Theorising) software.

Stage 2

In the second stage of the project, focus centred on training in the library setting for the equipment and software which we had decided to recommend. The process was adapted to the particular equipment or software involved. For example, EIA has its own tutorial and so the approach was to evaluate how well that worked for participants. On the other hand, Intellikeys, trackballs and key guards are relatively easy to use and require little instruction. It was the team's decision, therefore, to devote most energy to the browser, Opera, which we consider has the possibility of providing considerable assistance to people with disabilities and to be manageable in busy public settings.

The other component of Stage 2 was the trialling of the Opera browser with public librarians. This was followed by three focus groups which explored issues of training for Opera specifically, and for people with disabilities, in general. More detailed description of the method, used in Stage 2, is included in the 'training' section of the results, below.

Results

Evaluation of Adaptive Equipment and Software

The equipment and software recommended as a result of the project include: Intellikeys, EIA, Microspeed trackballs, the Opera browser, and possibly PW Web Speak, the assessment of which is not completed at the time of writing. A brief description of the equipment and software follows, along with reasons for recommendations.[2]

Intellikeys: is a large keyboard which comes with a selection of overlays suited to different types and levels of disabilities. We used the Internet Explorer-enabled overlay. It is a very flexible tool and very easy for librarians to support, as each overlay can simply be removed and replaced by another which might be more suited to a particular user, e.g., the alphabetical overlay for some people with intellectual disabilities. Overlays can also be specially designed with different functions or user needs in mind. For example an Internet overlay, which we used, has been designed at Regency Park.

Enhancing Internet Access (EIA): consists of a touch screen and a simplified web browser. The browser is compatible with Internet Explorer and offers access to web sites, search engines and email. The touchscreen interface is clear and allows the user to avoid the problems of mouse control. EIA also has an on-screen 'pop-up' keyboard, which can be used as a substitute for the standard keyboard if desired.

Trackballs: perform the same function as a mouse, except that the ball is on the top of the device rather than the bottom. As a consequence, the ball can be moved around directly with the fingertips. Trackballs are useful because they do not require the user to move their hands much, thus limiting the pain of those suffering from RSI or severe arthritis. They are also more solid and stable than a mouse. We found that some trackballs perform much better than others.

Opera: (www.opera.com) This browser has a number of features well suited for use by those with vision impairments as well as those with certain physical disabilities. To begin with, no functions are exclusively dependent upon a mouse. Text and images can be enlarged or reduced, images and backgrounds switched on and off, and hyperlinks navigated: all from the keyboard. Not only can it increase the size of the font for a web site but, in conjunction with Windows 98, Opera also has the facility to increase the size of menu bars, dialogue boxes, and scroll bars. The number of buttons (or icons) can be reduced to a basic few, and different button sets (including large or text only buttons) can be imported. Their colours can be changed. The font size on web sites is very easily manipulated by any user with the plus and minus keys on the number keypad of the keyboard, and different formats (e.g., for high-contrast) are easily installed and turned on and off.

Criteria for selecting appropriate technology

The development of criteria for selecting appropriate technology was an important and difficult step which emerged from the evaluation of the equipment and software. No one piece of equipment can cater satisfactorily to all people's needs. Compromises will have to be made when the final choices are made. Below is a list of criteria which should be considered and characteristics to avoid, followed by a summary of recommendations. A more detailed account of the criteria to use in setting up a flexible work station, in a public setting for people with disabilities, is available elsewhere. [3]

Criteria to be considered

- Ability to enlarge fonts, buttons, dialogue and drop-down boxes, and scroll bars.
- Keyboards which offer large letters, QWERTY and ABC arrangement, and choice of flat or raised positions.
- Simplified browser format or keyboard adapted commands.
- A trackball which is stable and solid with click buttons not too far from the ball. A ball which is not too high.
- An audio browser which is sufficiently useful for users who are blind, but which is sufficiently simple for support to be provided in busy public settings.

Characteristics to Avoid

- Equipment with a toy-like appearance, often viewed as patronizing by older adults and adults with disabilities
- Keyboards that deviate too much from the standard keyboard, or that lack keys essential to Internet use (e.g. the tilde key)

Our recommended equipment and software related to these criteria

- We found Opera to be the most useful program for changing the sizes of fonts, background and user interfaces.
- Both Intellikeys and EIA have good keyboard options. EIA has the advantage of offering solutions for people with quite poor muscular control.

- EIA and Opera both have potential as simplified browsers. Choice depends on whether emphasis is given to sight or physical disabilities. Combined with Intellikeys, Opera could provide a solution most responsive to a range of disabilities.
- Microspeed trackballs are well designed and effective.
- PW Webspeak may meet the criteria and be chosen as the audio browser.

Training for Recommended Equipment and Software

As mentioned above, only the recommended equipment and software were considered for the training phase of the project. Neither Intellikeys nor the trackball, were considered to require extensive training, either for librarians or people with disabilities. EIA, on the other hand, has its own, in-built tutorial which it was important to evaluate. The vast range of options, offered by the Opera browser, meant that it warranted sustained attention during the training phase of the project.

EIA

On the whole, the tutorial on EIA worked very well. After we had trialled it with six participants, there seemed no point in further evaluation. The main problem was that some participants with intellectual disabilities found the tutorial too wordy. Our central recommendation concerning training for EIA, therefore, is that the original EIA tutorial be retained, but that a simpler and less text-based version be drawn up by Rob Seiler, who originally developed the system. We understand that this recommendation has been accepted and that the less text-based version is in the process of development.

Opera

The evaluation of possible training for the Opera browser was tackled not only with participants, but also with public librarians. With the latter group (at Port Phillip Library Service and the Hamilton Headquarters of the Glenelg Regional Library Corporation), Opera was trialled for its utility in public library settings as follows. At both St Kilda, the headquarters of the Port Phillip Library Service and Hamilton Library, a 'regular' version of Opera with some minor modifications was installed. Library staff were asked to work through an online test exercise which presented different configurations, using about a dozen different keystrokes instead of the mouse and, particularly, providing feedback about how such a browser might be used in public libraries. During this process, staff completed an online questionnaire which was automatically emailed back to VICNET and ITNR for analysis. The focus groups picked up the issues from these trials and discussed training approaches, including wider issues about training people with disabilities to use the Internet.

Findings of trials and focus groups involving librarians

Although the browser can be very usefully employed at a basic level, we set out to demonstrate all the features of Opera during the trials, including the complex ones. One overall impression was of the challenges involved in conducting an online trial, with a view of providing pointers for training. Even though extensive briefing information was provided by Larry Stillman, some librarians still faced difficulties. As one of them later wrote:

> 'I found the whole process very confusing and complicated. The browser would definitely NOT be user friendly to a novice. It was not user friendly to someone who has been using computers for years, but is not a programmer.'

This is a salutary warning about the need for human interface in any technology trial.

Even within the focus groups, there was some confusion as to why some pages did not work well (not the fault of the browser, but the actual design of the website). Others found the different terminology used by the browser confusing, as compared to that in Internet Explorer or Netscape Navigator. These issues indicate the need for ongoing technological education of library staff. More generally, discussion indicated both that users need help even when using a simplified interface such as that provided by Opera, and that librarians need to understand how to show their patrons the ropes. This takes time, a precious resource in public libraries.

On the whole, the focus groups were very positive about the role that adaptive equipment and software could play. One librarian commented:

> ' - I was speaking to one of the co-ordinators [at the council] the other day and there are a lot of older people who particularly don't like to come [to the library] and use the Internet or computers because there are too many young kids running around. So if you gave them an extra incentive to come and use something like this [Intellikeys and Opera] it could be really good at getting some people in [to the library] who are missing.'

The consensus also was that Opera would be a very useful browser in the library situation.

Methods of assisting librarians and library users with Opera were explored. Discussion centred firstly on the ways in which librarians can be trained. At Hamilton, there was a strong feeling that the best option for them is for State Library of Victoria (SLV)/VICNET staff to visit for training sessions. However, since Opera is only one of many products used and it, like other software, undergoes upgrades, it is unrealistic to expect general library staff to remember every aspect of the product on an active basis. Ongoing training and support is important so that Opera does not metaphorically sit in the corner gathering dust.

Apart from training visits, training methods discussed for librarians and library users were: online tutorials, printed manuals and prompt cards. Port Phillip staff suggested that an Opera tutorial with hands-on exercises would be useful for them when learning how to manipulate the browser's settings. The idea was also put forward that such knowledge be broadly based within the organisation, rather than the preserve of a few individuals since, as one focus group participant said: 'It would be more sensible if staff knew the basic functions rather than one or two staff knew how to program the entire thing.' A printed manual had already been developed at the library to introduce new users to the Internet, and was currently being revised; there was interest in a similar hard copy manual for Opera.

Generally there was strong support for the idea of a prompt sheet - possibly to be placed on a stand next to the computer. In the Port Phillip focus groups, which were held before the one in Hamilton, a brain-storming session discussed what should be included on the prompt sheet. One proposal was that the sheet show some specific key steps for Opera, as well as some basic points about using the World Wide Web, e.g., clicking into a search box - perhaps in a double-sided format. The point was also made that desk space and the size of PCs must be considered when designing the prompt card, so that new users would not feel overwhelmed.

As result of the Port Phillip focus groups, ITNR staff prepared a colourful chart which included the Opera buttons, the equivalent key strokes and the function which was performed by using the keys.. This prompt sheet was then discussed in the Hamilton focus group. One suggestion was to highlight the keys responsible for adjusting font size on the screen. While some present wanted pointers provided about general Internet navigation, there was also concern that the prompt sheet not become cluttered with information, and not have 'too much on it as it gets too busy and hard for people to find what they want'. The Hamilton group also suggested that, alongside a small printed manual for patrons, an online Opera tutorial should be available for staff. The latter could include a help link so that staff could follow up specific queries with those who had trained them.

Training trials with individuals with disabilities

These trials were used to determine the features of Opera with which people need the most assistance. It was clear that the buttons need explanation. On the other hand, the plus and minus keys are very readily understood. The turning off and on of style sheets and images are also easily accomplished, but problems with some web sites can occur.The feedback from the people with disabilities, who were included earlier in the training phase, was also used for the design of the prompt sheet which was trialled with later participants. As a result, a number of adjustments to this prompt sheet will be made.

User Customisation Issues

The importance of library staff customising Opera to match the individual needs of users was noted:

> 'I think considering we are trying to increase Internet access for patrons with physical or visual disabilities, getting staff to set up a browser for a patron is a justified use of staff time. It seems a fairly easy process...the most time would be taken in customising the browser to suit the individual.'

On the other hand, other staff did not feel that this was realistic:

> 'I would say it is not practical unless library management were prepared to set aside practical time periods for librarians to assist fully those using the system. This does not occur even with our own Internet/word processing area for the public and I am sure that other libraries are in a similar staffing situation.'

Larry Stillman, Co-ordinator, Accessibility and Evaluation Unit, VICNET, earlier this year, won the Gorman scholarship which he will use to develop pre-figured versions of Opera suitable for different levels of sight disabilities. These will be trialled, at the minimum, with appropriate library users at Port Phillip and, possibly, through some focus groups of librarians at the State Library. These pre-configured versions of Opera will obviate the need for library staff to have more than basic knowledge of the Opera browser.

A recent ITNR forum at SLV(August 2000) provided further food for thought on the training issues facing librarians and patrons alike. From an audience of more than sixty professionals, many of whom were library staff, discussion focussed upon the practical implications of implementing library-based training for people with disabilities. One university librarian told of adaptive equipment that arrived two months after the initial staff training, a situation that had left many staff feeling in need of a refresher session, particularly in the face of the request by eager users for access to equipment. This concern for refresher courses was echoed by a number of public librarians, one of whom - Michael Byrne, of the SLV - argued for a rolling process of peer training amongst staff. A librarian from a regional council added that without such training, adaptive equipment ran the real risk of 'gathering dust in the corner', and suggested that some software, such as JAWS, might prove too complex for use in a public library setting. A technical support officer at a Melbourne university similarly highlighted some of the problems that can arise if systems staff are not provided with training when called upon to install adaptive equipment or software. Finally, a number of staff from disability organisations described the training packages they had begun to develop both to help their members access the Internet, and aid those involved in computer training to work better with learners with disabilities.

Training recommendations

As the previous discussion has demonstrated, adaptive equipment and software can significantly improve Internet access for people with disabilities, and public libraries have an important role to play in that process. At the same time, the implications on the training front are many, and must be thought through carefully. Some of the points which follow have been influenced by the work of Amtmann and Cook (1999) who undertook a similar project to ours in Washington State, USA; others have emerged from the SLV/ITNR research project.

Having looked very intensively at training, we believe that prescriptive training packages are very difficult to compile. There are too many variables: people and their disabilities, different browsers, frequent changes and upgrades to browsers, and a variety of adaptive equipment and software. This means that the 'content' of training will need to vary greatly. Many of the disabled participants in our study clearly required one-on-one training, adjusted to their particular needs and disabilities. We believe that the most helpful approach was for us to develop prompt sheets - one for basic

Internet information, and one for the browser, Opera, which we investigated extensively, both in terms of its suitability for the library context, and the associated training requirements. Along with other training 'content', these prompt sheets will need to be adjusted as changes to browsers occur. The closest we have come to a 'training package' is for the Opera browser and is targeted at librarians.

In terms of general advice to public librarians - about ways to approach and assist people with disabilities - we found that an excellent kit (*Disability Awareness Kit* 1998) had already been developed by Royal Victorian Institute for the Blind (RVIB), after community consultation. This is available to use as a general training package to assist staff in dealing with people with disabilities. The kit, which is available from SLV, discusses general disability issues, print disability and vision impairment, hearing impairment, physical disability and intellectual disability. It focuses on information relevant to public librarians such as interpersonal interaction, development of relevant collections and issues relating to accessing facilities and collections. We recommend this kit highly. Standards related to all aspects of disability services in public libraries are available in the *Mainstreaming Disability Services* - (2000) report, the outcome of another SLV project.

It is not only in terms of supplying background information that disability organisations can assist in improving access in public libraries. As we have suggested above, many disability organisations have already devoted considerable thought and energy to exploring the ways in which the Internet can be opened up to their constituents. Given this, we believe that public libraries and disability organisations make for natural allies in the realm of online access and equity. Going further, we would argue that much could be gained by both parties - in terms of expertise, equipment, and patrons - were libraries to seek an ongoing relationship with local disability organisations.

Access policies

Library service policy is another area that must be addressed, after suitable adaptive equipment and software have been selected for people with disabilities to use in the public library setting. Within the library itself, policies will need to be developed, not only to ensure the provision of training, but also to regulate the use of equipment, and priority of access by various patrons. It is logical that such guidelines be developed within the broader framework of each public library's general 'access' policies. Libraries can and should develop means to evaluate the effectiveness of any policies and programs initiated to improve access (e.g., Has the program resulted in more use of the Internet in the library by people with disabilities? By what groups? What disability organisations have become involved? How are access policies working? Are training components working well?)

Key project recommendations, in summary

- Adaptive equipment and software need to be selected with great care for a public library setting, not only to be suited to a range of different disabilities, but also to be practical and easy for librarians to support. The project has produced guidelines for this process, as well as recommendations for state-of-the-art equipment and software available at the time the project was undertaken.
- Attention needs to be paid to associated accessibility issues in libraries, e.g., the provision of adjustable computer desks to accommodate wheel chairs of various sizes, and location of computers to allow enough space for the movement of wheel chairs.
- Disability awareness kits can play a valuable role in providing library staff with increased insight and confidence when working with people with disabilities. The kit produced by the RVIB is a fine example of such materials.
- Library staff will require training and reference guides in order to use adaptive equipment and software effectively. In this regard, Larry Stillman is currently developing a manual - both online and in hard copy - for use with Opera.
- Partnerships with local disability organisations should be established, both to ensure that communication is an ongoing process, and to facilitate peer group training for adaptive equipment and software

- Library policies are needed to improve and regulate access to online services for people with disabilities in public libraries. These policies need not only to deal with training issues, but should also regulate the use of adaptive equipment and software - setting out time limits and priorities amongst various users. These policies should be integrated with other 'access' policies. The effectiveness of library policy, with regard to disability access, should in turn be the subject of a simple but regular evaluation process.

Footnotes

1. A video outlining the method used for the project and illustrating some suitable adaptive equipment is available from Information and Telecommunications Needs Research at Monash University (Phone: 03 9903 2322 or email: itnr@sims.monash.edu.au)

2. More detailed papers about the 'evaluation of equipment' stage of the project are available on the ITNR web site: http://home.vicnet.net.au/~itnrn/

3. See Williamson, K., Stillman, L., Bow, A., and Schauder, D. (1999), 'Guidelines for a flexible public online workstation for people with disabilities'. Paper presented at OZCHI Conference, held at Charles Sturt University, November 1999. http://home.vicnet.net.au/~itnrn/reports/flexibleworkstation.htm

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Changing 'Shape' of Copyright: The Impact on Libraries.

Eve Woodberry

Introduction

The application of copyright law is an integral part of working in a library. The Copyright Act 1968 has shaped the services provided by libraries in the print environment for so many years that the conditions have become second nature to the majority of library staff. The advent of CD-ROMs and on-line services in the 1980s introduced library staff to licenses and contracts, which had the capacity to apply more limited conditions than the Copyright Act. However it has been in the 1990s, with the development of the Internet and multi-media, that the most revolutionary changes have occurred, and the 'shape' of copyright has changed dramatically.

The importance of these changes for libraries is illustrated by the fact that at the ALIA conference in Albury in 1992 there was one session on copyright, presented by Derek Fielding, the University Librarian at the University of Queensland. At this conference there is an entire stream with eighteen speakers drawn from various sectors, all presenting aspects of copyright and intellectual property and its impact on libraries.

Print environment

The 'shape' of copyright in the print environment has been refined and clearly defined over a period of many years. Print materials lend themselves to quantification and the Copyright Act 1968 reflects this, providing an environment which users, librarians and copyright owners are familiar with.

The Act, in particular the libraries and archives provisions, provides a definite 'shape' defined by:

- Fair dealing provisions
- Reasonable portion - 10%, one chapter, one article
- Library to library copying
- Library to user copying
- Preservation provisions
- Statutory and voluntary license agreements
- The role of collecting societies

Over the years the conditions have become relatively easy to apply and provide a balanced environment for all parties involved. Materials in the main are purchased by, and located in the library, the Act is a federal one and applies across Australia.

Changes in environment

The advent of information in electronic format which occurred in the 1980s saw the beginning of a dramatic change in the environment. While print remained the dominant format the digital revolution resulted in a plethora of formats while the speed of developments outstripped the regulatory environment. The 'shape' of copyright in this changing environment is complex and presents a challenge for both librarians and users.

License Agreements

The first indications of how changes in the regulatory environment would impact on libraries and users appeared with the license agreements which arrived with early CD-ROM and on-line products. These licenses raised issues about the number of users, the scope of site licenses, where and how the product could be used and the jurisdiction of the license. The conditions were often very different from those of the Australian Copyright Act and the conflict between contract and copyright law became a major issue for libraries.

License agreements continue to be the major regulator for material in digital form in libraries. Considerable work by library organisations worldwide, including ARL, ICOLC, JISC and CAUL, through negotiation with producers and suppliers has resulted in license conditions better approximating the conditions in the Copyright Act. However the global nature of licenses has meant that compromises have been necessary.

If you look back at the programme for the past couple of ALIA conferences you will find sessions on problems, issues and management of licenses. In addition to the Copyright Act it now became necessary for librarians to negotiate license agreements with suppliers, be aware of license conditions, and advise users accordingly.

Digital Environment

In the 1990s the rapid development of the Internet and the variety of electronic formats placed librarians firmly at the forefront of change. The digital environment, characterised by convergent technologies and the disassembling of information into its component parts also provides tools which allow users much greater flexibility in how and where they access and use information. The library as defined by the physical building has a limited role in the digital environment unless it is to provide a point of access. However the skills of information discovery and organisation provided by library staff in the print environment continue to apply in the digital environment, though with considerable variation.

Some characteristics of information in digital form are:

- not owned by the library
- accessed through a third party (Internet)
- information located elsewhere, often overseas
- global in nature
- requires a mix of hardware and software in order to use it
- access and use is controlled by licenses

'Material' (if you can call it that) has different properties:

- articles are held in databases
- same article may be in a variety of databases
- access is provided through variety of services (publisher, aggregator)
- the concept of pages and page numbering no longer applies
- multi-media uses convergent technologies to create a product

Copyright in the digital environment

There are diverse influences which are shaping copyright in the digital environment, including:

WIPO

Australia's commitment to the World Intellectual Property Organisation (WIPO) has resulted in the drafting of new legislation in the form of the Copyright Amendment (Digital Agenda) Bill which will come into force in 2001. During the process of consultation with the Bill it became clear that the sphere of interest was very broad, as can be seen from the list of groups, institutions and people who provided submissions. Libraries were only a small part of the total picture.

Globalisation

The fact that the Internet itself is global calls for regulation on a global scale. Robert Cailliau, a Belgian computer engineer who co-drafted the first proposal for the Web with Britain's Tim Berners-Lee suggested in New Scientist recently that:

'The Net is a space in which you encounter others so there has to be some regulation of behaviour, not content'

He suggested that people be educated in how to use the Internet, rather as schools teach children how to read, and that they take a test to acquire a Net permit. This is an interesting concept, especially for the library environment where the Internet is used as a means of delivery.

Globalisation is also evident in the attempts, particularly in Europe, to 'harmonise' the response by different countries to the WIPO recommendations.

Copyright reform agenda

Recognising that changes were required to the Copyright Act 1968 the federal government through the departments of the Attorney-General and Communication, Information Technology and the Arts, instigated an extensive review and simplification of the Copyright Act in 1994. The reports from the Copyright Law Review Committee (CLRC), which is undertaking the review, are yet to be considered by government.

Intellectual Property and Competition Review Committee

There is also a quantity of peripheral legislation which is impacting on libraries and copyright mainly as a result of copyright increasingly becoming an economic argument. An example of this is the Intellectual Property and Competition Review Committee (Ergas Committee) which has already released its report on parallel importation. However the Committee is still to report on the remaining issues in its terms of reference including: s51(3) of the Trade Practices Act, the CLRC report on simplification of the Copyright Act, collecting societies, crown ownership, the term of copyright protection, broadcast licence fees, computer software and caching.

Copyright Amendment (Digital Agenda) Bill

The most highly visible influence on the 'shape' of copyright for libraries is the Copyright Amendment (Digital Agenda) Bill 1999. While the majority of material in digital form which libraries provide access to will be governed by license agreement the Bill will have a major impact on copyright when it comes into effect in 2001.

Some of the more interesting/challenging sections which libraries will have to contend with include:

Reasonable portion

The new Act does attempt to define what constitutes a reasonable portion in the digital environment, however the characteristics of information in digital form are less easily quantified than print. The application of the '10% of words' specified in the Act will be interesting for both library staff and users.

Specification of equipment

Another area which is new and different is the attempt by the Act to restrict use through the specification of the type of equipment which can be used within a library to view and print material - but not to download or communicate it outside the library building. As libraries attempt to maximise the use of equipment by using it for a variety of purposes this is an expensive way of managing use. In addition restricting use to within the library building is contrary to one of the major benefits of information in digital form, which is the provision of access at a time and place which suits the user.

Commercial availability

The commercial availability test for digital materials is more restrictive than that applied in the print environment. It will be interesting to see the application of this when the Act becomes law.

Three year review

Sensibly the government has recognised that the Act may have shortcomings in its application and has specified that it will be reviewed in three years time.

Conclusion

The 'shape' of copyright has changed dramatically in the past decade and this will continue for some years to come. For library staff and users the environment is far more complex, and in some cases more restrictive, than was previously the situation in the print environment.

Library staff and users now have to contend with a multi- stranded environment of regulation:

- Copyright Act 1968

- Applies mainly to print

    - With some exceptions from the Digital Agenda Bill this Act will continue to apply

- Licenses/contracts

- apply to stand alone and networked CD-ROMs

- apply to access to online databases

- continue to vary for each product

- Copyright Amendment (Digital Agenda) Bill

- will come into effect in 2001

    - will affect both print and digital environments

- Peripheral legislation such as the IPCR Committee.

Further changes can also be expected, as the reports from the CLRC have yet to be considered, and the government has given a commitment to review the application of the Copyright Amendment (Digital Agenda) Bill in three years time. Hopefully this process will lead to clarification and refinement rather than major changes. However it is vital that the library community remains aware of this process and continues to provide input to the various committees and government bodies involved in the process to ensure themselves and their users an environment where access to information remains open and affordable.

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Proceedings

The Network Becomes the Library: The need for Supportability

Tom Worthington

Outsourcing

> *"An arrangement whereby a third party provider assumes responsibility for performing information systems functions at a pre-determined price and according to predetermined performance criteria."* (*Northfield 1992*).

Outsourcing can improve the delivery of services, but risk loss of control of quality and costs. The Australian Computer Society commissioned a study of IT outsourcing in 1997 (*ACS 1997*), which was presented in evidence to the Senate Finance and Public Administration References Committee IT Outsourcing inquiry (*Hansard 1997*) by Ian Dennis and myself.

Preparing the study was itself an exercise in the use of IT and contracting out. We were able to prepare a detailed "paper" on a complex paper in a relatively short time, using people at different locations communicating on-line. Members of the press commented on the benefits of having the detailed final document immediately available online, with hypertext links to background material.

In its Senate submission the ACS recommended caution on whole-of-Government IT Outsourcing, warning that it was a high risk approach, for individuals, organisations and for the community as a whole. The paper concluded that outsourcing assessment processes are a valid tool for Government and private organisations in matching operations to strategic needs. It could deliver cost savings and other benefits but if used inappropriately, significantly diminish service levels, incur major reconstruction costs, and cause social damage. Also it may not be necessary:

> *Many of these advantages can accrue just from the process of examining the outsourcing option, as a consequence of self-examination and formalisation. That is to say that they can accrue without outsourcing per se.(ACS 1997)*

The ACS's paper was addressed to Government, but in any organisation there is a need for processes to be open, accountable and participatory. Decisions made behind closed doors and communicated as a fait accompli are not in the public interest. It is important that all those involved understand their obligations and the risks, as well as the potential benefits.

Reasons for Outsourcing identified in the ACS paper were:

- Cost Savings
- Focus On Core Business
- Access To Skills
- Access To Technology
- Flexibility
- Accountability

Critical Issues with Outsourcing were:

- Transaction Costs

- Hidden / Additional Costs
- Lack of Flexibility
- Loss of Control
- Human Resource Problems
- Lock-In, Vulnerability and Dependence:
- Privacy and Confidentiality
- Intellectual Property and Competition
- Opportunity Cost

The Outsourced Library

Given that outsourcing is a valid tool, how can it be used with IT in a library? One way is that the Internet can be used to deliver services. This doesn't require any new or revolutionary technology: the technology is already here and the revolution is already happening. However, it requires new skills for the people involved both in the outsourcing client organisation and the outsourcing company.

In the most extreme case the Library could be replaced with an outsourced, remotely delivered service. The library would consist of a bundle of web based services: the catalogue, research and information services. E-books, journals and newspapers would be provided online wia contracts with content owners. Services which could not be delivered via a web interface would be available by e-mail (such as more complex research queries) and by telephone. There may optionally be a service for delivery of paper books and magazines, with delivery to the clients site or at a service location (what was previously called a "library").

It should be noted that the bundle of services which is a library need not be provided by one organisation in one physical location, nor need there be an actual collection of books, as in a conventional library (books can be sourced from separate specialised sources or printed on demand). In a way a current library is a type of outsourcing organisation: contracting with various suppliers of goods and services to supply an integrated service to their borrowers.

The library as a bundle of on-line and print on demand services may seem an extreme view of a fictional future, however it exists in embryonic form today. You can look up Michael J Bourk's book (which I edited): Universal Service? - Telecommunications Policy In Australia and People with Disabilities on the web in the National Library of Australia catalogue. The note field gives the address where a web version of the book can be read on-line for free. An electronic version of the book can be purchased and downloaded. Even if a library orders a copy of the book through the usual library supply channels, it is demand printed on a laser printing press. Printed stocks of the book do not exist in any warehouse. It may therefore make sense to rationalise the supply chain and combine the library supplier and the libraries.

The different online services of a library could be provided by specialist information services run from computer systems located anywhere in the world. E-mail and telephone enquiries could be routed to an appropriately skilled person who would service the library requirements of any number of organisations, in a similar way to telephone call centres. In a study I am carrying out for an Australian local government body, I point out that web based call centres are feasible and need not be limited to low paid semiskilled tasks (*GSDC 2000*). A review of previous literature was carried out for the study by the The Library of the Australian National University , with the request by e-mail, the deliverable as a web page and payment by direct entry. There were a couple of telephone calls and no visits to the physical library.

In general Libraries are not in the business of handling things, but providing access to information.

This places them at the forefront of the Internet revolution. In the first phase of this revolution we saw the Internet used as a direct replacement for existing technology: e-mail in place of paper mail, web publications in place of paper publications. This technology-by-analogy approach is coming to an end. We will now see the Internet used in ways which have no off-line equivalent and providing insights on how to build and run organisations.

Outsourced staffless, building-less libraries are feasible. However, it should be noted that this only indicates that outsourcing is made possible; *if* it should be carried out is a wider public policy question. Also it is possible to outsource some or all of the services of the physical library, particularly where these are provided remotely (from book-stacks, by post, telephone or fax). Equally, online libraries could still have a physical presence, with a shop front somewhat like modern bank branch, with rows of ATMs and perhaps one part time staff member to provide customer assistance. While those lucky enough to have access to Australia's excellent full service libraries may not like an ATM library it might allow a service to be provided more widely.

The use of networked services creates a need for open standards based systems, to replace current closed systems. If outsourced services from on-line suppliers are to be used by a library (or to *create* a library), then standards are needed. The two ways to acquire an IT system used to be to either to build it or buy it. Either option was a major undertaking, with years of effort needed and the system expected to be in use for many more years. The Internet and the web have shown another option: build the system from standard components. The components, and the suppliers of the components, can be changed relatively simply, quickly and frequently. The standards used can;t be changed as often and provide the long term stability for the service.

As an example of this process I have been consulting to a Federal Government agency on the move of their web site to a new host. Most of the complexity of the move is involved with the enhancements to a few dozen pages of static content, not the actual move. The site has most content drawn from several agencies and uses XML based meta-data and search engines. Exactly which agencies and what the data is has also changed. However, this is of little concern provided the Internet standards are used.

The Extensible Markup Language (XML) from the World Wide Web Consortium, attempts to overcome limitations with HTML (used for the Web). Apart from being used to provide extended web pages, it can also be used for providing a format for meta-data.

Librarians are used to dealing with meta-data in well defined standard formats and well aware of the problems of adding a new "standard" formats, so why bother with XML? It is not certain, but it looks as if XML will be used for many applications, making it cheaper and easier.

One example of one use of XML is for XHTML, which provides a more carefully formatted implementation of HTML using the XML syntax. XHTML is designed to allow a bridge between the existing web and new features. XHTML's stricter definition will require some minor adjustments for web authors, such as TAGS being in lower case (<i> for italics, not <I>). In return for these minor inconveniences, XHTML allows extensions to be easily added for special applications.

Another use for XML is to provide actual "books". There are several proposed XML based formats for electronic books, including the Open eBook Forum's Open eBook Publication Structure. This attempts to be expressive enough for paper publishing, while maintaining compatibility with web browsers. It should also be useable with hand-held e-book devices.

It should be noted that there will be an ongoing need to cope with multiple standards. As an example the Australian Digital Theses Program aims to establish a distributed database of digital versions of theses produced by the postgraduate research students at Australian Universities. Dublin Core metadata is automatically generated out of the deposit form for each thesis deposited. The metadata is presented with HTML 4.0 Meta-tags, but with the tools used could as well be presented in It is intended to use an e-commerce model to charging for printing/downloading of documents.

The Australian Digital Theses Program currently uses PDF format for document storage, which has severe limitations as an electronic document format. The Open eBook Publication Structure. Or a similar XML based e-book format would be more efficient and suitable for on-screen reading that PDF. However, a widely accepted XML based format is not yet available.

Librarians have a central role to play in ensuring future access to digital materials. Publishers may increasingly see the content as perishable: prepared for a mass market in whatever is the current trendy digital format. XML has the potential to provide lasting format, but requires research and standards work.

Librarians are in the business of organising online resources. A collection of material, even material available free from the web can in itself become a valuable new work. PictureAustralia, which provides integrated access to the image collections of a number of Australia's cultural institutions provides a preview to the future. The National Library of Australia hosts PictureAustralia, but the pictures can be located at any of the cultural institutions. The creation of standard metadata for each picture and the theme of collections of photographs creates a valuable new resource, distinct from the individual photographs.

Linux

The rise of Linux as a global phenomenon is is worthy of research by sociologists and marketeers. This is not to detract from Linux's potential as an operating system, but to point out that the way Linux was developed and promoted may provide a new model for doing business. Linux is essentially a free clone of the propriety Unix operating system, built by an on-line consortium of volunteers to run on desktop PCs in place of Microsoft Windows. Some of the Linux volunteers are individuals, some are very large corporations. The product of this labour is given away, but has become a large business, through sales of technical support, manuals and add-on software.

Linux is usable in large organisations, where staff to install and support it are available. It isn't quite ready for the small business or home user, due to being more difficult to install and configure than Microsoft Windows of the Apple Macintosh operating system and having a very much more limited range of end-user software packages available.

Linux has a symbiotic relationship with the Internet, the web and standards. It is very popular as the host for web sites and due to its lack of one large commercial backer, relied on standards and on the Internet for tying its elements together.

On 19 July, Sun Microsystems, Inc. announced it will release the source code of its StarOffice (TM) Suite, to the open source community under a GNU General Public License (GPL). Part of this is to define a set of XML-based file formats for word processing, spreadsheets and presentation tools. Combined with the capabilities of XML enabled web browsers, such as the open-source Mozilla, this provides the possibility of low cost software generating portable file formats. A document created in a presentation tool could then be presented using a web browser. There would be no need to convert the file from one proprietary format to another, or download a special viewer program, the web browser would display the document directly. It also creates the possibility of more flexible document formats, such as integrating a printable text document and a slide show in the one file, or displaying database records as a document. An ambitious example of attempting such a system is the Mozilla.org's proposal for an open source combined word processor and Web editor, based on the Mozilla web browser. This software will most likely be released for Linux before any other operating system.

Rather than going to a major vendor of mainframes for a large computer system, it is possible to read a cookbook and build your own with components from the local PC shop. The ANU has built a Linux supercomputer from PCs stacked on old library shelves. The same technology could be used to provide very large database and web transaction processing systems for library applications.

What is left for the library to do?

If e-publishers can deliver e-books and e-zines via e-commerce, what is left for the library to do? While a commercial e-future is feasible for libraries, it is not necessarily a desirable future. Public and academic libraries have a central role in creating a more diverse publishing system, by supporting open standards and in helping mitigating the problems of consolidation of global corporate publishing.

Left to their own commercial forces, companies will produce incompatible, proprietary publishing technology. Market forces might eventually create a de-facto standard, but the rate of technical development may outpace this and the de-facto standard may result from one company dominating global information distribution.

The development of Linux shows a way in which organisations and individuals can co-operate to create technology which has a public benefit, but which can also involve private profit.

As the network becomes the Library, there is a very real risk of the loss of valuable information to the community. Libraries have the central role in pioneering ways to ensure information is supplied in a sustainable and supportable way.

Access to the Disabled: A Role for The Library

One role libraries have fulfilled is to provide access to information for those who could otherwise not have it. One recent example where Libraries have fulfilled this role is in providing access to the Internet and the web for the community.

In 1994 Roger Clarke and I argued (*ACS 1994*) that public libraries held the key to equity of access to the Internet. Governments responded by making some additional finding available to provide Internet access available to Libraries.

Another valuable role which libraries have previously played has been in access to information by the disabled. Libraries have traditionally provided special equipment for the reading of print material by those with visual impairments and by special formats such as large print, talking books and books in languages other than English.

The Internet began with a head start for the disabled: by having text as its basic medium text, it allowed material to be easily transformed into formats such as large text, speech and Braille. When graphical features were added to the web, consideration was given to maintaining accessibility, by including alternative text (essentially captions) for images.

This head start with accessibility has recently been eroded with poorly trained web developers not using the webs accessibility features and tool developers failing to build accessibility features into new web formats.

Graphic designers who have moved into web development may be excused for not knowing about accessibility. However, IT professionals, who's discipline has for many years included the human factors of interface design, have no excuses. As the case brought against SOCOG shows, organisations may be engaged in unlawful conduct by providing a web site which was to a significant extent inaccessible to the blind. When designing for the public, IT professionals have an obligation to use the accessibility features built into the web. IT professionals who fail to use low cost accessibility features are acting unethically. Librarians have a role in reminding the rest of us how to go about providing accessibility, on a large scale and for the long term.

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Proceedings

Mentoring Relationships

Belle Alderman

Success Factors

Mentoring features
McCormack (1996)

Type of Relationship	Formal/facilitated/structured or Informal
Number in relationships	Usually one-to-one
Age	Mentor usually older
Experience	Mentor usually more experienced
Purpose	Personal, career, educational development

Mentor's roles
Fisher (1994: 5)

- Adviser
- Assessor
- Bridge
- Communicator
- Confidant
- Co-ordinator
- Counsellor
- Facilitator
- Friend
- Guide
- Link
- Opener of doors
- Partner
- Role model

Qualities expected of a mentor

- Intelligence & integrity
- Professional knowledge & skills

- Professional attitude
- High personal standards
- Enthusiasm
- Willingness to share knowledge

Is mentoring for me?

In your early career mentoring can ...

- build your confidence
- inspire and generate enthusiasm
- aid in understanding inexplicable & nuances
- enhance experiential learning
- offer effective models
- help you to accept 'criticism'
- assist in career planning

Preparing to be a mentee

- Assess your skills
- Determine skills needed for professional practice
- Identify areas where skills development is required

What kind of skills do you have?

- Technical skills - what you can do
- Professional skills - what you know
- Personal skills - how well you get things done

Personal SWOT analysis

- Strengths~your qualifications & skills
- Weaknesses~your gaps relevant to career
- Opportunities~your aspirations
- Threats~your barriers to success

Then there's the organisational SWOT ...

Factors in choosing a mentor

- Same or different experience, work level, style, age, gender, cultural background?
- Range of expertise and personal experience?
- Knowledge and professional networks?

Mentors benefit too!

- Intrinsic satisfaction through participating in another's development
- Enhanced ability to impart skills & knowledge

- Enhanced skills in observing, listening, questioning
- Opportunity to discuss issues and problems, and understand other's perspective
- Enhanced analytical & strategic thinking skills
- Greater understanding of one's personal and professional values
- Review and reappraise knowledge and skills
- Collaboration in production of skilled entry-level professionals
- Opportunities to assess for future career

What's required?

You must

- be committed
- be prepared to realistically assess yourself
- jointly develop a 'plan'
- devote time
- accept constructive criticism
- turn criticism into positive growth

Facilitated mentoring

Typically involves

- Design that meets organisation's needs
- Criteria & process for selecting mentees
- Strategies & tools for determining developmental needs of mentees
- Orientation for both mentors and mentees
- Strategies for matching mentors & mentees
- Negotiated agreement between mentor & mentee
- Co-ordinator responsible for program and supporting relationships
- Formative evaluation to adjust program
- Summative evaluation to determine outcomes for organisation, mentor & mentee

Murray (1991: xv)

Critical success factors (based on Partners in Learning mentoring program)

Mentors

- listen, encourage, prod
- share personally & professionally
- offer opportunities
- monitor & adjust mentee's program

Mentees

- set goals
- commit time & effort
- *continually* reflect
- *continually* self-assess & adjust goals

- stretch the 'comfort zone'

Successful mentoring

Requires you to

- understand the mentoring process
- decide what you want from mentoring
- agree on the roles/responsibilities of both mentor and mentee
- engage with an appropriate mentor

Handout

Examples of Definitions of Mentoring

Definitions differ depending on the profession involved and workplace practices where it is implemented. For example, the nursing, business, academic, and school environments may emphasise different aspects. The various definitions below generally include the type of relationship, the number in the relationship, and functions of the mentoring relationship.

> *'Mentoring involves a relationship in which the mentor, usually a more experienced individual, works closely with the protege for the purposes of teaching, guiding, supporting and facilitating the professional growth and development of a colleague.'* (Taylor 1992: 48)
>
> *'... a complex, interactive process occurring between individuals of differing levels of experience and expertise which incorporates interpersonal and career development.'* (Wunsch 1993: 353)
>
> *'... a close relationship between two people where the mentor guides and assists the mentee to a level of personal and professional excellence not attained previously.'* (Matters, 1994: 4)
>
> *... an intensive, one-to-one form of teaching in which the wise and experienced mentor inducts the aspiring protege into a particular, usually professional, way of life.'* (Parkay 1988: 196)
>
> *'Facilitated mentoring is a structure and series of processes designed to create effective mentoring relationships, guide the desired behavior change of those involved, and evaluate the results for the proteges, the mentors, and the organisation with the primary purpose of systematically developing the skills and leadership abilities of the less-experience members of an organisation.'* (Murray 1991: 5)

Suggested checklist for Negotiating Mentoring Agreements

(based on Murray 1991: 158-59)

- Mentor and mentee should discuss each of the questions below and record a joint answer.
- What roles will mentors be expected to take?
- How will we deal with issues of confidentiality?
- Who will be involved in discussing/negotiating the agreement?
- What is the suggested duration of the relationship?

- How can the agreement be concluded, if different to the specified time?
- What will be the frequency of our meetings and their length?

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Proceedings

Career planning

Leonie Blair

Careering into the future requires a recognition of our preferences and broading the range of tools we can use for career self management. In this interactive session, participants will consolidate what they have heard during the day, examine a model of positioning for career success and gain insights into the value of respecting their own and others' differences in preference for career path-finding. We will explore what the effective path-finder needs for career success.

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Proceedings

Summing up the Fringe: a personal view

Bruce Cumming

Fringe 2000 began with Ann Ritchie welcoming delegates, stating that the main focus of the conference will be 'preparing for the future' in the context of career development. She indicated that the presenters will be sharing their diverse experience within and outside libraries, with particular reference to the conference's main theme which is going 'beyond the square,' or working outside of traditional librarianship. She invited delegates to relax, enjoy and participate, and to use the informal moments of the agenda to network and further question the presenters. A series of small group discussions were scheduled for that purpose. She remarked that other themes for the conference will be mentoring and professional values, topics in line with previous Fringe conferences.

Ann's welcome was followed by an opening address in which John Levett discussed a number of issues arising from his formal paper, rather than directly addressing the paper itself. In this, he emphasised the need to understand the 'square' (which he largely equates with an organisation) before attempting to step beyond it. His recommended strategy also includes: gaining a good understanding of yourself, your preferred work styles, strengths, weaknesses, etc.; clearly defining the changes you wish to achieve through stepping out of the square; and coming to a full awareness of the links between. He insists change is not self justifying, it must have a larger end in mind. He also maintains it is your responsibility in stepping out of square to recognize the impacts of your changes on the organisation, the profession as a whole and yourself - and that indeed such recognition will assist the process of change you are initiating.

Between Ann and John, in welcome and opening address, the major themes of the Fringe were set; these themes were taken up and further developed throughout the day and a half of presentations and discussions.

On day two, the dual keynote addresses of Mairéad Brown and June Garcia added further emphasis to the topic of professional values. Their presentations emphasised that core values remain a series of principles in development. In both the United States and Australia, the adoption of a written set of values is a process underway. The speakers illustrated how values are reflected in the day-to-day practice of librarianship, whether within or outside of the 'square.' All conference participants were referred to a draft list of such values available for comment on the ALIA website, and are encouraged to contribute to their development.

Throughout the conference, it became clear that librarianship is a vibrant field. Roxanne Missingham demonstrated that those within the 'square' - traditional libraries - have long been leaders in change and development, and that they will continue in this fashion. Further proof of this lies in Greg Fowler's illustration of librarianship becoming more rigorous through its inclusion in and adoption of the principles of evidence based practice (in medicine). In another direction, Robert Knight and Jan Richards in particular show the profession becoming all the more socially active in regional Australia, providing a community focus where other services and centres are eroding.

Also in her keynote address, June Garcia forcefully concluded that librarianship is not a profession conducted only from within traditional libraries. A number of speakers validated this conclusion in sharing their own experience, the diversity of which can be seen in their biographies and papers. Moreover all agree that the 'librarian's tool box,' to use Nerida Clark's term - the set of skills developed in the study for and practice of librarianship - is in high demand amongst employers. A common theme running through this group of presentations and discussions is the suggestion that

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the development and marketing of these skills, most particularly the innovation, flexibility and willingness to continue learning that librarians demonstrate, benefits both the individual's career prospects and the profession as a whole. Indeed, there remains a strong need to promote market these strengths as characteristics of the profession, a fact amply demonstrated in Kim Farley-Larmour research findings showing that librarianship is still regarded by many as a conservative and 'boring' one.

A short session on career planning by Leonie Blair, a number of specific papers, and the advice offered by a panel of recent graduates provide practical assistance in determining in what field you might want to apply this librarian's tool box, and in how then to get the required job. Again, a common theme is that there are many opportunities out there for those with library skills. However, not all suitable jobs are advertised. Indeed, the larger proportion are filled unadvertised, according to Gary Conroy-Cooper. He therefore recommends developing and widely circulating amongst attractive employers a resume highlighting your skills.

Many of the speakers acknowledged their debts to mentors. Again, this was a theme raised in Ann Ritchie's welcome and which ran throughout the conference. Belle Alderman in particular addressed the issue in her presentation, and Ann again raised it in closing, suggesting that all of the speakers would make excellent mentors.

For this writer, though, the key message of Fringe 2000 was its demonstration, as opposed to discussion, of the values central to librarianship - regardless of where it is practised. No matter how enunciated, these values relate to the 'reliability' of the profession. They therefore hinge around professional attitudes toward honesty, equity, impartiality, confidentiality and efficiency, and these are translated into a professional service ethic and commitment to the preservation of recorded knowledge. They are most expressed in the open discussion evidenced during the one and a half enjoyable days of the conference: the willingness to share, and to grow and improve on the basis of that sharing; the innovation and flexibility apparent in the diversity of the conference program and the experiences it discusses; the joy experienced by librarians in pursuit of their craft, and their excitement at the challenges facing the profession. Librarianship is a profession which, where conscientiously practiced, is worthy of the trust placed in it by its clients and its participants alike.

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Proceedings

Traveling the Yellow Brick Road

Heather Fisher

Like Dorothy in 'The Wizard of Oz' my path has been full of surprises and challenges, has contained meetings with characters who seemed to lack a heart, seem bereft of courage and appeared to be mentally challenged . I can identify a few who had the same qualities as the wicked witch of the West and thankfully some who were akin to the good witch of the North. Certainly the yellow brick road of the classic story has correlations with my career path, give or take a pot-hole or two. There have been many twists and turns and ups and downs and at times I wondered if I was progressing at all, let alone progressing in a satisfactory direction and I don't know if I'll ever reach the magic land of Oz (whatever that is!) but on the whole , the traveling has been a wonderful experience and I feel that I have been very fortunate.

To borrow from another source I have to say that the journey is the rewarding thing rather than the arrival at some preconceived destination: in fact in the matter of a career it is probably impossible for most people to know what the ultimate destination is. It may be a bad thing to be obsessively consumed by a desire for a specific ultimate destination given that the variables change so continuously and that many of these variables are not within your control. In fact , retaining the analogy to the Wizard of Oz, when Dorothy eventually found the elusive Wizard at the end of the Yellow Brick Road, he was a fraud and not much use at all. To be traveling forward by my own reckoning, enjoying stimulation and challenges which offered pleasure, a fair degree of independence which allowed for creativity and a deep sense of satisfaction without too many traumas or long standing difficulties and to be paid a remuneration which was within acceptable limits, seemed to me to be a realistic perspective.

Anyway - let me take you along the winding yellow brick road of my career and like Dorothy I will offer some observations (though I can't hope to compete with her Kansas grass roots philosophy) and maybe there are some ideas or perspectives which ring true for you.

I began my professional career as a secondary school teacher in economics and geography at the age of 20 after a 4 year degree from University of NSW. I loved it. I was passionate about it and couldn't imagine ever doing anything else. Just for fun I did the professional course for public librarians - I loved reading and thought that a course in librarianship would offer me greater depth in things literary - WRONG! However - I got quite caught up in it and continued with the requirements and eventually completed it. At the time this Registration Course with the Library Association of Australia was the only library qualification available outside the Sydney metropolitan area.

Meanwhile I taught in Australia and Canada but with the arrival of 3 children I changed careers from that of a classroom teacher to the very rewarding profession of full-time Mum. When we moved to Gosford I undertook some casual relief work from time to time - some classroom teaching but also some lengthy teacher librarian positions to replace incumbents who took long service leave . This was the first time I had used my library qualification and I found that the job satisfaction of this different kind of teaching was enormous. Then I was offered 3 days per week at the local Primary School (where my children attended) as the teacher librarian so I opted for this regular arrangement. From this I moved to the enormous challenge of setting up a library at a juvenile justice detention centre for 15-18 year old boys (who were mostly illiterate) and then to another Primary School which was designated as a disadvantaged school and had 2 pre-school classes attached to the school.

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However, though these positions were very responsible ones with complete staffing and budgetary control, they were actually on a casual supply basis (annual contract) and I had reached a stage where I was tired of the insecurity of such positions even if there was no real threat of redundancy or similar. In total I was in this status for 9 years and probably could have continued in this way for years and years. However, I needed something that had a long term to it - something that allowed planning and long term objectives. So - I looked about to see what was available which contained the sort of work I had grown to like, the sort of work I was qualified for, was local and was reasonably secure. I was lucky enough to be reinvented as the Woy Woy Branch Librarian in the public library network of Gosford City Library.

This was a most marvellous window of opportunity as well as a stimulating and rewarding experience. I worked with large numbers of elderly people for the first time and was humbled by their intellectual curiosity and energy and their appreciation of our service, not to mention their determination to get the best out of their local community. I worked with children which continued to be a pleasure but I faced a whole world of adult literature which had never been my field before. I was part of the middle management team for the library network and within the first year undertook the task of completely refurbishing the eccentric old building to make more productive and pleasant use of the space. I discovered that Branch Libraries in the Public Library world are the well oiled machinery of the public library system and they serve an enormously important role in the cultural health of our communities.

After 3 years the entire Council, including the library, underwent a cataclysmic restructure and through some unexpected changes and resignations, the position of Children's and Young Adult Librarian was available. I could not resist such a challenge though I have to say that I suffered withdrawal symptoms for a year after I left Woy Woy Branch. However, my new job, located in a specialist Children's Library within the main Branch of Gosford City Library was another whole world of challenges and I was soon up-to-my-neck in shifts, community liaison, staff training, children's holiday programs, Book Week, policy document preparation, collection development, establishing a Toy Library, establishing a Family Literacy Program, refurbishing the Children's Library, grant applications and so on.

I certainly could have done with Dorothy's magic shoes which only required 3 clicks of the heels to bring about a wish! The Yellow Brick Road was more like a 6 lane freeway and the speed of operation was over the limit by several hundred kilometers per hour. However, I was passionate about what I was doing - I loved it - I kept creating new partnerships for events and programs in the community and I was developing more and more ambitious programs within the library. I was also getting more and more involved with other Children's Librarians both in the local school scene and in the wider public library field of Sydney and Newcastle.

In the middle of this I was nominated for ALIA's Marjorie Cotton Award for Children's Librarianship and I became the inaugural recipient of this National Award in 1996. This was immensely gratifying and I attended the National Conference of ALIA in Melbourne to receive it. It is now awarded every 2 years and I am proud to have been the first of a succession of hard workers who make a significant contribution to the literacy and literary experiences of the children of their communities. In the same year, before the Award was even known to me, I had applied for an ALIA Travel Grant - this is awarded to professionals to enable them to travel to gain knowledge or experience which will benefit the profession. At much the same time as the Marjorie Cotton Award, I was notified that I was the 1996 recipient of the ALIA Travel Grant. What a year 1996 was!

I spent the remainder of 1996 and the first half of 1997 preparing for the 2 months data gathering project overseas organised for July-August, 1997. I corresponded with about 80 libraries, basing my contact on articles or promotions I had read which offered reports of innovative programs in libraries in Canada and USA. The project focussed on programs for children and young adults in the public library context and initiatives in family literacy in public libraries. In the end before we left Australia I had narrowed the visits to 32 public libraries based on the possibilities with regard to public transport and the unique nature of the programs I had read about. I visited all these. I spent a full day in each of these and gathered a huge amount of information and received overwhelming professional hospitality and camaraderie. In the 2 months of traveling I sent home 11 boxloads of

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programs, brochures, information, printed material on programs and the like. These I have shared with small meetings, seminars, workshops and gatherings as well as large conferences and national professional publications.

And what has happened as a result of this?

My husband would say that the main outcome was that I just ran a lot faster, attended an enormous number of functions/meetings/seminars/trainings and conferences and forgot to cook/wash clothes/iron/sweep floors and so forth! There is an element of truth here!

On a macro-scale, the travel grant focussed an enormous amount of attention on children's services within the Library community in Australia as I reported back to ALIA on my project and was invited to speak. If I possibly could manage it, I agreed to any invitations, feeling that in some way this was a fair exchange for my travel grant from ALIA. I hope everyone thought that they got value from those sessions. In summary the following has occurred as a direct result of the Award and the Travel Grant:

- Publication of a book called "I can do that! Programs for children, teens and their families in libraries". This contained material gathered overseas as well as the experiences of contributors in Australia and my personal experience over the years. This is now completely sold out.
- Two papers presented at an ALIA National Conference which were then included in the Proceedings
- Two presentations at County Public Libraries Annual Conferences
- Nancy Booker Honour Lecture delivered at the State Library of NSW
- Four sessions presented to Library Technicians at Regional Conferences
- Awarded Apex Citizen of the Year for the Central Coast
- Presented a workshop at the Conference of the International Federation of Library Associations, Amsterdam
- Two articles published in APLIS
- Four articles published in ORANA
- Numerous speaking engagements to local community organisations
- Conduct of workshops in Darwin for 3 days and Perth for 2 days.

The experience gained and the people I've met through all of these things has been immeasurably satisfying and I count myself extremely fortunate to have been offered these opportunities.

All of this was happening while I was still flying about Gosford City Library at the speed of light trying to implement innovative and exciting programs both within the library and externally in the community with huge staff changes both above and below my level. As you can see , the last few years have been fairly busy. Add to this my position as President of the Central Coast Branch of the Children's Book Council and my position as President of the Young Adult Network at the State Library and you can see that I had to have my running shoes on to do my best .

Then I started on a Masters Degree which I had wanted to do for a long time and I just had to run faster still!

The message is of course that to do these things you have to have a passion for them which translates into commitment, time management and self motivation. I do all the usual things that other family people do - I play hockey, I was a Girl Guide Leader until I moved recently, I sew, I spend time with my family, I read, I go to concerts, I camp in holidays, I cook/clean/sweep when I remember - about the only unusual thing is that I rarely watch television (except for the Olympics of course!). Most other people could do what I do and what I've done, I'm sure, if they wanted to.

The other big message is that there are choices along the yellow brick road if you set yourself up

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with some options. In the beginning I was qualified as a secondary teacher and I worked with children . Then I got another qualification which offered broader options should the desire ever overtake me. Once I went into the public library arena and worked with the whole range of the community I was more broadly qualified through experience - at any time then I could have applied for other positions and with my Branch Library experience I probably could have moved into reference work or other specialised fields. I chose to move to a specialised children's position . Choice is the key. My energy and enthusiasm and my growth and development in that position, added to the nature of that position as well as adding to my personal competency, reputation, skills base and expertise. In 10 years as the Children's and YA Librarian, the job description which had evolved was nothing like the one that I started with.

Now that I am on the last leg of my Masters Degree I am again adding to the possible options that I have, as I travel.

In fact I have traveled further down the yellow brick road in just the last couple of months. I expected to be at Gosford City Library forever but things change and with my bulging CV and my nearly completed current qualifications, I have recently reinvented myself as a teacher librarian again at a small independent school in Grafton. I have to establish a library and a library culture within the school which is basically a Primary School at the moment but within a couple of years there will be the added mission of establishing a High School Library for the same school on a separate campus site. New challenges, new situations, new communities, new clients. This is a much smaller scale of operations than I have experienced in the past but children anywhere in the world need all the help we can give and I'm hopeful that I can contribute something worthwhile in library experiences for the children in this small school at Grafton. So, the yellow brick road stretches out ahead of me still, full of promise and opportunity and I look forward to skipping along it. I don't know if we'll ever get to the City of Oz and meet the Wizard but as I said at the beginning, the journey along the road seems to me to be the most exciting part anyway.

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Proceedings

Evidence based health care: diverse career opportunities for librarians

Greg Fowler

Introduction

We assume health professionals maintain a current knowledge of research in their field. The volume of research publication in the health science has grown at near exponential rates in recent decades. It has been estimated that a clinician needs to read 17 peer reviewed articles per day, every day of the year, to stay current (Haynes 1993). Even for specialist the task is daunting. Since 1987 over 170,000 articles on cancer have been indexed by the database Medline. The challenge to summarise this research evidence has been taken up by international groups like the Cochrane Collaboration [http://som.flinders.edu.au/FUSA/COCHRANE].

Today I will outline what is Evidence Based Health Care and what roles Librarians are undertaking in this major process of change in health care. I will provide some case examples from my own experience and will introduce you to the challenges of evidence based practice for all Librarians.

1.Evidence Based Health Care

EBHC is a deceptively simple concept but the devil is in the detail. EBHC is an expansion of the concept developed for medicine in the early 1980s. Sackett et al (1996) define EBM as "the conscientious, explicit and judicious use of current best evidence in making decisions about the care of the individual patient. It means integrating individual clinical expertise with the best available external; clinical evidence from systematic research". This approach has migrated from clinical medicine to other health care disciplines variously being defined as "evidence based healthcare" (Gray 1997) and "evidence based practice" (McKibbon 1998). It was in fact Ann McKibbon , a health sciences librarian from McMaster University in Ontario who redefined this approach to encompass the patient's perspective. For her, "Evidence based medicine (EBM) is an approach to health care that promotes the collection, interpretation, and integration of valid, important and applicable patient-reported, clinician-observed and research-derived evidence. The best available evidence, moderated by patient circumstances and preferences, is applied to improve the quality of clinical judgements" (McKibbon et al 1995).

Simple, is it not. Just apply the research evidence in the context of your professional judgement and your patient's choices. What happens though when there are 20 million pieces of 'evidence' of varying quality and sometime of contradictory conclusions. Your average consultation time is 7-10 minutes. Practically, how can you access, distil and apply this research? To address these issues a number of approaches have developed. One is to develop summaries of the best available research evidence and another is to train clinicians and other health care decision makers to find and appraise relevant evidence. Other approaches have been to imbed knowledge prompts in software for drug and test orders and for electronic patient records. These are generically called decision support systems. Another story entirely.

As you know any research process requires a review of past studies to provide context. Some research consciously reviews significant past research to provide a useful summary. This type of narrative review is open to a number of sources of bias. The author's personal beliefs, the quality and availability of research papers all bias such summaries of research evidence. To overcome

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these limitations groups such as the Cochrane Collaboration, the National Centre for Clinical Excellence in the UK and here in Australia, the Centre for Clinical Effectiveness at Monash University have developed more rigorous methodologies.

Using the gold standard research methods of randomised controlled trials, systematic reviews by Cochrane Review Groups identify all published and unpublished randomised control trials (RCTs) on a clinical topic, extract the results data from sound trials and undertake a statistical meta-analysis to produce valid conclusions. As many as 500 trials may be assessed for one such review. These reviews are regularly updated against new research. The Collaboration has identified over a quarter of a million clinical trials and produced nearly 600 systematic reviews. These are published in the Cochrane Library on the Internet and on CD-ROMs. http://www.update-software.com/cochrane/ There are also other evidence summaries available on the Internet from a variety of international sources. An excellent gateway to these can be found at Andrew Booth's web site Netting the Evidence: http://www.shef.ac.uk/~scharr/ir/netting/. Andrew is a another health Librarian who has made a substantial impact in this field.

Evidence based practice requires practitioners to have the skills to access and interpret evidence. This specialist informatics skills training is an increasingly common role for health librarians. Under the logo of **Ask>Find>Appraise>Act>Evaluate** librarians for the UK Anglia and Oxford National Health Service have developed *Finding the Evidence Workshop* (FEW) and *Critical Appraisal Skills Program* (CASP) which have been adopted and adapted around the world. Details of these programs can be found at http://libsun1.jr2.ox.ac.uk/caspfew/ There are an increasing number of Australian health librarians involved in this type of training.

2. Role of Librarians as Information Clinicians

This type of informatics skills training is nothing new for librarians. What is new is the advanced level required by end users and the diversity of information sources covered. Medline searches of 60 lines are not uncommon. These are often replicated over a number of health sciences citation databases. Critical appraisal skills training requires a detailed knowledge of research methodology and statistical techniques.

As well as designing and delivering education and training programs in both academic and clinical setting, librarians are involved in designing developing interactive web sites and software tools. Some Cochrane Review groups include librarians as research partners, while other group are merely demanding customers of their local hospital libraries. Librarians are also involved in EBHC at policy and administrative levels. Examples are the appointment of an executive Library Adviser to the U.K. National Health Services and a recent Deputy Director of the Australasian Cochrane Centre being a former public librarian.

Library professionals are increasingly being employed under different job titles. You will all know examples of qualified librarians working as research officers, project managers, archive and record managers. Some novel examples from the health field are Information Clinician, Medical Informatics Tutor, EBM Educator. A recent article from the leading medical journal *Annals of Internal Medicine*, called for the creation of a new professional speciality called the *Informationist*, a discipline requiring a combinations of the skills of a librarians, a clinical epidemiologist and a medical scientist (Davidoff & Florance 2000). While there is long history of clinical librarianship, ie working from the hospital wards (Lamb 1974, Marshall & Hamilton 1978, Giuse et al 1998,), the evolving paradigm of EBHC has generated plenty of role reflection among health librarians (Lusher 1999, Scherrer & Dorsch 1999). While some reflect others, to plagiarise a marketing jingle, *Just Do It*.

My own experience as Chair and Project Manager from the South Australian Human Services Libraries Consortium provides some local examples for the role of librarians in promoting EBHC as an industry knowledge management strategy (Fowler 1998b, Fowler 1999). As Facillitator of the ALIA Health Section Continuing Professional Development for Evidence Based Health Care Group, I am also actively working to improve my own skills, and those of my peers, as an information

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professional in this field. (Fennessy 1999). The SA Health Librarian Section ran a National Train the Trainer Workshop in 1998 as part of this professional development process (Fowler 1998a).

3. Some future trends

The effort of the Cochrane Collaboration in preparing and maintaining systematic reviews of health care interventions are now being replicated for education and the social sciences. The Campbell Collaboration is "an emerging international effort that aims to help people make well-informed decisions by preparing, maintaining, and promoting access to systematic reviews of studies on the effects of social and educational policies and practices". http://campbell.gse.upenn.edu/intro.html I would encourage you to seek opportunities to contribute to the work of this organisation.

In closing I would like to draw your attention to the application of the process of evidence based practice to librarianship in general. A recent paper by Julie Hooke in LASIE (Hooke 1999) and a presentation by Andrew Booth (Booth 2000) at the Library and Information Association of New Zealand Aotearoa annual conference in Christchurch, New Zealand earlier this month are I believe the beginnings of a new phase in the professionalism of our practice. I also eagerly await, as someone sentenced to life long learning, a paper by Elderidge (in press) due out next month.

The key issue for the profession is *'Do we have the research base upon which to build evidence based practice?'* Today, sadly I feel the answer is *No*. The next question is then how do we enthuse the next generation of librarians to build evidence based practice? I hope I have made some small contribution today.

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Proceedings

Superman left in the shade: librarians eclipse traditional superheroes in regional and remote communities

Robert Knight

Introduction

"When is a librarian not a librarian?" No, it's not a riddle, but it IS the question on everyone's lips in public library land. And the answer is - ALMOST ALWAYS!

It is a sad day for all of us assembled in this room, for I am the bearer of bad news. The stereotypical public librarian that we know and love is extinct! Gone are the bun and glasses, the insipid and unassuming person hovering discreetly behind the desk, the representative of that part of the organisation that always takes what they are given and expects no more. This charming but ineffectual creature has been replaced by "Superlibrarian", the saviour of small communities!

OK, so this is all a bit unexpected and over-the-top for us to deal with, but the fact remains that public libraries in small communities are being faced with an unprecedented level of demand, expectation and responsibility for the provision of services that at the very least could be described as "non-traditional" and at the outer limit be described as "blasphemous"!

This situation is coming about as a direct result of the current and ongoing withdrawal of many services and agencies from "the bush", including post offices, banks, medical services and government services, where one agency remains constant, operational and open for business - and that's the local public library. In fact, the more services and agencies that are withdrawn from rural communities, the more the public library becomes recognised as the community focal point, meeting place and access facility for a broad range of purposes.

The other truth in all of this is that if the public library fails to respond to the challenge that is being indirectly issued, it may also be a casualty of the syndrome that I refer to as "rural shrink". Fortunately, however, library managers have been quick to recognise the opportunities that exist to respond to the needs of their constituents, to the extent that they are becoming building blocks for the revitalisation of communities.

So what does it all mean?

There are broad ranging implications arising from the metamorphosis of public libraries for the new generation of library managers in rural and remote Australia, and the news is all good!

- I may be going out on a limb here, but I believe that libraries are going through their most exciting and opportunistic phase in recent history
- library managers are in a position to interpret and capitalise on community needs. Public libraries have an impressive range of credentials that we often take for granted. They:
    - have trained information specialists onboard
    - are well patronised and highly valued by constituents
    - are usually equipped with technology
    - are recognised community focal points

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  - are generally accommodated in functional and pleasant buildings
  - are part of local government infrastructure
- there is an unprecedented opportunity for library managers to reconfigure service provision to a client focussed environment. Cost effective options are available for outsourcing or streamlining of a number of backroom processes using third party providers and technology, allowing libraries to get out where the action is.
- *libraries are recognised* as safe places, community meeting places, public spaces, focal points. Library managers have every opportunity in the world to capitalise on this unique set of characteristics and take maximum advantage of their ready made market.
- there are ample opportunities for libraries to collaborate both within and outside their sector - more about this in a minute
- the Australian library network of some 1,600 outlets is perfectly positioned to deliver government information and disseminate services on behalf of all levels of government. These may include Medicare, postal, RTA, rates payments, dog registrations, etc. - - .. and why stop there? What about banking, ticket agencies and other private enterprise services?
- libraries must take advantage of the many opportunities available for community partnerships - these could be as small as providing display and meeting spaces, and as large as establishing a collaborative venture with the Family History Group or local Adult & Community Education provider.

Great ideas - - but where do we start?

In preparing for this session, I have uncovered a myriad of partnerships, joint-use libraries, co-locations of services, and an extraordinary range of services that are being offered from the hallowed halls of the public library. The one thing that remains constant regardless of the configuration is that the many and varied library service environments have been established in response to an identified need by library managers who have translated the need into an outcome.

This indicates that libraries and library managers are adaptable, flexible and responsive. This feature of the public library environment is probably the single most important feature in the evolution of the once quiet and respectful book repositories into vibrant community multi-service providers. A few examples of how libraries have manifested themselves in communities throughout my own area will demonstrate what I am talking about.

The Riverina Regional Library of which I am the Director is a large library service in south western NSW. It provides library services to 102,000 residents of 9 local government areas through 13 branches, one of which is a mobile library that visits 24 locations per fortnight. The communities that we serve range from 57,000 in Wagga Wagga to about 30 at Milbrulong, and our libraries have adapted to meet the need of their communities through a combination of infrastructure, services and collections. In order to maximise library service provision to as many residents as possible throughout our client area, a number of innovative partnerships have been developed with agencies that may not have been seen as traditional public library partners in the past. The first joint TAFE/public library in NSW has been established at Cootamundra; a joint use school/public library operates in the ex-Snowy Mountains Scheme village of Talbingo; the local post office-come newsagency provides a library service to the residents of Ariah Park; Australia's highest town, Cabramurra, which is located in a National Park and as such does not actually "belong" to a local government area, runs a book exchange to meet the library needs of its residents; and, of course, the faithful mobile library which is not unusual in itself except that it is our second busiest service point. Tumut Shire Council has taken full advantage of the four branch libraries in the shire by utilising them as council transaction agencies, and more recently a successful application to the Networking the Nation program has seen the establishment of telecentres in each branch. Tumut Council is now investigating the possibility of extending the functionality of its libraries with the introduction of Rural Transaction Centre facilities - another federally funded initiative.

It is very much the focus of the Riverina Regional Library Committee and myself as Director to

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promulgate all aspects of library service within our region, and to work towards the recognition of our libraries as public spaces which go far beyond what may be perceived as "traditional library business". It is not so much where or with whom libraries set up shop as it is the opportunities they bring to communities; hence our obsession (well, not quite, but almost!) with finding ways and means to infiltrate as many towns and villages as possible throughout our region with library services.

Importantly, these partnerships and innovations have been achieved by ordinary people doing extraordinary things with very little money. Such successes are both achievable and sustainable if library managers are willing to harness and activate the opportunities that abound within their communities.

What can I do to make a difference?

It is easy to sit back and contemplate just how bad things are and how much worse they can get - .. and believe me, they will!

As library managers, we are very much the masters of our own destiny and it is entirely up to us whether we decide to become victims or victors. I have chosen the latter - a good loser I am not!

A few strategies that have worked for me in the fight against evil are:

- Lobbying for funding - libraries compete for funding at all levels of government, beginning at the local level and moving through to the federal level. Libraries can assemble powerful advocates and are themselves an important part of the social fabric. Funding will follow from well constructed and sustainable lobbying campaigns.
- Harnessing community support - following on from the previous point, community advocacy is an important part of the library "tool-kit". It may take the form of Friends of the Library groups, strategic partnerships, or simply support from library users, and should never be underestimated.
- Optimising technology - public libraries are already recognised as public access points for technology. Libraries have the skills base and infrastructure to optimise technology and to assist their constituents to do likewise.
- Library co-operation - libraries have a long history of co-operation which has been hugely beneficial in establishing collaborative networks for all sorts of reasons. Get involved in extending existing networks and creating new ones. Imagine the impact if all 1,6000 public libraries in Australia were linked up - ..
- participate in professional groups - there is ample opportunity to contribute to professional groups at the local, state and national levels. You don't need any special talents except a willingness to be involved and extend yourself a little. I am currently a Secretary of the Country Public Libraries Association South-West Zone, President of the Eastern Riverina Arts Program and President of the Riverina Regional Council of adult & Community Education at the local level; a member of the NSW Local Government & Shires Association Library and Information Services Reference Group, the NSW.net Management Committee, and the NSW Public Libraries Consultative Committee at the state level; and member of the ALIA Public Libraries Consultative Group, and the Council of Australian State Librarians (Public Libraries representative) at the national level. Each of the professional library groups works for the advancement of libraries; the affiliation with local community organisations help to establish the library as a viable part of the educational and cultural life of its community.

All of these groups help to promote libraries at every level, and provide the essential information and advocacy that influences decision makers.

Still interested?

For those hardy souls who are interested in venturing past the sandstone curtain (aka the Great Dividing Range) in NSW, and other geographical boundaries that separate city and country in other

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states, opportunities for library professionals abound. For all of the reasons that have already been stated, library managers can make a real difference to regional, rural and remote communities.

The changing profile and importance of libraries, which is being endorsed by additional funding from governments and supported by numerous research findings, makes library management an excellent career choice for aspiring professionals. Far from adhering to the old stereotype of library staff, new age librarians really are the superheroes of regional and remote communities.

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Proceedings

A foot through the door: do you feel your course adequately prepared you for work?

Ann Luzeckyj

In 1998 the University of South Australia Library began developing a Certificate in Library and Professional Practice. The program was piloted in 1999 and has run for three semesters to date. It was established to meet a need expressed by librarianship students of the University's School of Communication and Information Studies who, in providing feedback to the school, had indicated the need to include practical experience or work placements within the course. At the time (1998), the Library School at UniSA incorporated two three week placements into its undergraduate courses, but did not include a placement opportunity in postgraduate courses. As the Library and Information field is extremely competitive, particularly in South Australia, employers express preference for graduates who can demonstrate some practical work experience. The problem is neither new nor unique to the State of South Australia.

The Certificate in Library Professional Practice was initially designed to provide a sixteen week practical experience of working in an academic library. This was reduced to a twelve week program after the first year and the number of participants was reduced from seven in the first year to two per year, to minimise the demands on Library staff.

All interested Library staff participated in a discussion about the aims that should underpin the program. The following were decided upon:

- to understand the mission, vision and delivery of a quality library service
- to give students an awareness of and practical experience in working in an academic library
- to develop skills in designated areas of library practice to an agreed level
- to provide advice on constructing a curriculum vitae and applying for jobs[1]

In order to ensure participants' experienced a good quality program, outcomes relating to the entire program as well as those that applied to specific areas were adopted. A selection of approved broad outcomes follows.

Participants will be able to:

- have an understanding of the integration of current technology in the library today
- assist clients to use lending services and processes effectively
- assist with lending services
- use networked services effectively to provide access to information
- organise their own time effectively and work both independently and as part of a team
- establish strong links with the profession understand the mission, vision and operation of the library[2]

A detailed paper on the program is available in Frylinck, J (2000) Change in Australian Technology Network Libraries: A showcase of current professional practice (Adelaide: University of South Australia Library) 37-56 or at http://www.library.unisa.edu.au/papers/grads.htm.

This program provides one example of ways students and graduates may acquire work experience.

There are many others including course work, participating in voluntary work schemes and traineeships. In order to ascertain what coursework opportunities other Australian universities offered librarianship students, I emailed the eleven schools listed on the ALIA website[3]. I received responses from six universities, including the University of South Australia, and determined that five of them required students to participate in work placement activities (at both postgraduate and undergraduate levels). The sixth required undergraduates to participate in work placement and offered it to postgraduates as an optional subject.

Volunteering is another way of gaining professional experience. Many special libraries, public libraries and state libraries value the work of volunteers and have special schemes for them. The State Library of South Australia provides training and experience for volunteers. The Volunteer Program incorporates volunteers into the Library to increase public access to Library resources and to enhance the work of paid staff in a manner which benefits volunteers, staff and the South Australian community. [4]

Some work places offer trainee schemes, which provide an opportunity to attend a library qualification course in a day release capacity. My own qualification and library experience were acquired in this way. I was assigned to professional duties for one and a half days per week while studying. This meant I attended the course for one day a week (this was included as a professional duty) and worked with a Librarian performing professional tasks, such as working on an information desk, helping with user education, cataloguing or ordering material for the other half day. Opportunities like these are rare, but provide an invaluable experience, as the incumbent is able to relate what is learned to the work they are doing.

Flinders University, in South Australia offers a post qualification trainee scheme. Each year a newly qualified librarian is appointed to a three year traineeship. During this period the incumbent gains experience in three different areas of the library so they gain an overall perspective of how an academic library operates. [5]

Providing an opportunity for graduates to gain an overall perspective on how an academic library operates was also the intention of the Certificate in Library Professional Practice offered at the University of South Australia. This outcome was achieved according to all of the responses to a recent participants' survey.

The survey was sent to each of the nine participants and seven returns were received. All of the responses were very positive and six of the seven who are employed, indicated that the program had contributed to their success in acquiring a job in a library (the seventh participant said that she had not attempted to find work as she was exploring personal interests[6]). All of the respondents indicated that they would recommend the Certificate to a friend and comments stated that they felt it had provided networking opportunities, increased confidence and skills and given them an overview of how an academic library operates.

Comments included on some of the returned surveys follow

- challenging, interesting and rewarding and not without fun
- provided on the job training and experience which many employers want
- the knowledge I gained in seeing how it all fits together in practice has been extremely valuable
- very pleasant and interesting
- the practical experience has been invaluable[7]

Survey respondents clearly stated that on the job experience had aided their employment prospects. Whether experience is gained through voluntary work, a specific training program or through practicums arranged as part of course work these opportunities to gain hands on and face to face dealing with clients and technology skills are vital to a graduates success in finding employment. Courses that do not offer opportunities and encouragement for students to acquire practical experience are therefore not adequately helping students get their foot in the door at

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perhaps the most critical time in their professional employment.

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1 A Luzeckyj 'Increasing the employment prospects of graduates' in Frylinck, J (2000) *Change in Australian Technology Network Libraries: A showcase of current professional practice* Adelaide: University of South Australia Library p 43

2 Ibid

3 *ALIA-recognised courses in library and information studies 2001 9 October 2000 available http://www.alia.org.au/education/courses/*

4 *State Library of South Australia Volunteer Program 9 October 2000 available http://www.slsa.sa.gov.au/library/volprog/volprog.htm*

5 *B Cations, L Walkley and A Nixon Trainees thriving in InterALIA the newsletter of ALIA in South Australia, no.4 May 1999, p 10*

6 *Anonymous response to Certificate in Library Professional Practice Post Participation Survey September 2000 unpublished*

7 *Ibid, selected comments from returned surveys*

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Proceedings

Think Globally!

Carolyn McSwiney

Introduction

In Gateways to Knowledge, Richard Rockwell (1997) writes

> Once the profession of the librarian was a relatively well defined job with clear boundaries - the acquisition and management of a books and journals collection and its circulation. It has become one of the most exciting and demanding jobs ... as the boundaries of the library and of the profession become more permeable. (Rockwell,1997, 121)

The rationale for this brief presentation is the knowledge that we are accessing and 'managing' information globally for a global society. Associated with globalisation is a workplace environment that is becoming - at an increasing rate - more culturally diverse. A better understanding of this phenomenon, endeavouring to 'think globally', and using Continuing Professional Development opportunities to this end, will result in our 'client-focused services' being more effective.

Presentation Design and Objectives

There are three sections of this brief presentation. First, I will define what I mean by globalisation and internationalisation and the context of cultural diversity. Second, I will briefly refer to some culture-related issues and the implications they have for us as library professionals in a culturally diverse workplace (whether that workplace be the public library, a corporate library or a school or academic library.) Finally I will look at what implications this might have for our own Continuing Professional Development, and make some practical suggestions in relation to that.

The purpose of the presentation is threefold:

- To create an awareness of the implications globalisation might have for the information workplace
- To outline some cultural issues, influences and circumstances that might develop further our understanding of cultural diversity and issues relating to internationalisation and globalisation.
- To offer some practical suggestions and pragmatic guidelines of ways in which we can build these and related issues into our own *Continuing Professional Development*.

Terms and concepts

Globalisation has been described as a

> central driving force behind the rapid social, political and economic changes that are re-shaping modern societies and world order. (Held et al., 1999,7, citing Giddens,1990; Scholte, 1993; Castells, 1996)

Whereas *globalisation* finds its origin and point of reference in world consciousness and world systems, the focus of *internationalisation* is on the nation, and the interaction between national entities. The terms are closely linked but they are not interchangeable. I suggest that the current trend towards internationalisation - for example in the Higher Education Sector - finds its energy and context in the process of globalisation. Globalisation is a broad movement and the effects of its recent gathering of momentum can be felt across many of the social domains including the environment, popular culture and migration of peoples and communication.

The concept has wider implications and not all of them are negative! The impact of the process of globalisation is not simply confined to power plays between nations in the domains of trade and technology and a widening of the gap between rich and poor (as has been portrayed recently by some radical groups). It can be regarded more positively as a movement that can energize much of our outlook and thinking. It stimulates nations to interact with each other and to enrich each other by cultural exchanges.

Cultural patterns and Related Issues

One of the most striking effects of the rapid development of systems of transport and the exchange of information, is the increase in migration and general mobility of people. A culturally diverse workplace is the norm rather than the exception. Cultural patterns and related issues form a series of contextual overlays which affect the level and success of interaction that takes place within the workforce itself, as well as with the customer or client group.

Caution must be exercised against stereotyping cultural groups, and, worse still, against using *culture* as the rationale for anything that 'doesn't work'. There are complex sub-cultures in society and the uniqueness of the individual must be taken into account! However, a brief look at some of these cultural patterns does throw considerable light on patterns of information-seeking and library communication.

In an extensive study that involved 116,000 employees of a large multinational company in 'more than 50 countries' Geert Hofstede, the Dutch sociologist, identified four areas which formed significant patterns of values in different countries. (Hofstede, 1991, 13) Hofstede named these as:

- Social inequality, including relationship with authority ('power distances' affecting for example relationships between employer/employee; teacher/student; government/citizen)
- The relationship between the individual and the group (individualist and collectivist societies: manifest in the value placed on autonomy and individual expression of thought and behaviour compared with the expression of 'the group' - family, corporation, institution)
- Concepts of masculinity and femininity
- Ways of dealing with uncertainty, relating to the control of aggression and the expression of emotion ('risk-taking and uncertainty avoidance' seen in the need for change and variety versus security, stability, measurable results) (ibid.)

Awareness of these patterns, even on a general scale, contributes towards explaining very many of our workplace experiences and relationships.

Impact on the Library and Information Profession

Cross-cultural communication and *learning traditions and styles* are the two examples I have selected to illustrate the impact of culture in the library environment.

Verbal and non-verbal communication can be a constant challenge if we suppose that 'everyone does - or should' speak English 'Australian-style'. It is not only our accent that can make communication difficult, but our choice of words, the colloquial expressions we use (particularly when we are trying to be informal and put others at their ease!), and worst of all the library jargon that we tend to use without thinking. Different accents - phonic and semantic - play an important part in any transaction whether it is a face to face situation, by telephone, or - in the case of the semantic accent - by email. How we open and close a conversation, facial expressions and different ideas about the need for physical space - all need to be taken into account, if a transaction is to be successful.

Learning styles and traditions, too, vary significantly from one country to another. A number of our patrons/clients have come from a learning tradition where the 'book' provides all the answers, and 'knowledge' that is in print form must be unquestioned. Reference Desk transactions will differ markedly between library users from this sort of background and those others who are used to a questioning, self-directed learning approach with which we are more familiar. Ballard and Clanchy (1997) from the ANU Study Skills Centre, describe a learning continuum that ranges from reproductive learning with its strong emphasis on memorisation through analytical and critical thinking to a speculative approach. Their writings are helpful towards understanding many of the issues and challenges encountered at the Reference Desk.

Information Literacy programs - if they are to be effective - need to take into account at least some of these learning issues.

Continuing Professional Development

A growing number of information professionals are expressing the personal need to become more aware of issues relating to cultural diversity. The availability of professional [and] training programs that focus on cultural diversity awareness is growing. Seminars and workshops on differential needs and multi-cultural issues are readily accessible in the public and local government sectors and similar sessions can be initiated for the information profession.

Networking outside the profession can also offer new insights and stimulate interest. There are cultural interest groups that, interestingly, often use the 'local library' as the centre for their gatherings and exchange of news. There are also various allied associations such as the International Student Advisers Network of Australia (ISANA) - an association with an annual conference, and an excellent website1 and network for those connected with international students in the Higher Education Sector. Conferences and websites of the higher profile bodies such as IDP and UNESCO provide valuable resources and publication lists. Building a personal bibliography of readings on cultural diversity and globalisation is a valuable addition to a personal portfolio.

Travel Grants and library visits during international travel often reveal wonderful collections in the most unexpected settings. A new dimension to understanding the library backgrounds and expectations of many of our clients in the public or academic library in Australia can be garnered from these travel experiences.

On a personal level, thinking 'beyond the square' might lead one to learn another language or join a cultural society. In the case of one busy university librarian, it was attending Mandarin classes once a week, and for a young professional it was the choice of studying the culture of our own indigenous people - a course which counted towards an Arts Degree. These would make valuable additions to the Record of 'generic' activities for the ALIA CPD Associate program.

Conclusion

We live in a time of extraordinary transition and transformation: transformation of our global thinking and concepts, and transformation of the technology that, for us as library professionals, is arguably our chief *metier*.

Every sector of the library and information profession - public, corporate or academic - is feeling the impact of globalisation. In *public libraries* the cultural diversity of the user-group is becoming more remarkable - and especially so in an Australian society which is conscious of its multi-cultural identity. Multinational companies trade globally and transnationally, and it is rare to find oneself in a *corporate* workplace which is not dependent to a significant degree on international transactions. The *academic library* is also affected. Education - particularly the Higher Education Sector - has a

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declared policy of internationalising 'all facets' of the institution whether it be teaching and learning, the student cohort, or the curriculum.

Ensuring that cultural diversity awareness is part of our Continuing Professional Development program will equip us to be more effective information professionals: professionals alert to the remarkable opportunities of cultural development which are so much a part of the culturally diverse society in which we now live and work.

As the sociologist Anthony Giddens observed of the impact of globalisation in the 1999 Reith Lectures:

> As these changes gather weight they are creating something which has never existed before, a global cosmopolitan society. We are the first generation to live in this society whose contours we can only dimly see.

Globalisation is not incidental to our lives today. It is a shift in our very life circumstances ...

It is the way we now live!

Selected Reference List

This List is offered simply as 'somewhere to start'. It does not attempt to be comprehensive nor even very representative!

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Proceedings

Switched on: your new career!

Roxanne Missingham

Introduction

- Welcome to librarianship
- Long history in librarianship and indexing
- New times means new opportunities and skills for all of you

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What have we been doing?

- First online library catalogue in Australia
- Weapons Research Establishment, SA
- First collaborative purchase of a dataset loaded to a computer
- 1968 Chemical Abstracts CSIRO and Melbourne Universities

What about reference?

- Database access and searching skills emerged in the 1970s and 1980s
- Digital catalogues, e-resources and full text services emerged during the 1990s
- Next is the emergence of real services using collaborative reference software, knowledge bases and our networks

---

What does this mean for librarians & technicians?

- Clients value you!
- Broadbent & Lofgren study shows staff most critical success factor
- Smithsonian study confirmed this, critical role in taking scientists into the electronic environment

---

New services - new staff

- The bibliography is dead - new sites
  - Federation

    - PictureAustralia
- Collaborative reference - CDRS
- In your face reference

What do users expect?

- Interpreter
- Flexibility
- Consistency -
    - mylibrary or
    - myuser?
- Support

What this means for you

- Skills
- communication
- general core skills
- team work
- enthusiasm for change
- learning as a way of life

Wired men and women

- Expect to move and change
- Expect to be valued

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Proceedings

New Members Welcome: the library professional and the professional association

Michael Robinson

What is VALA?

- Victorian Association for Library Automation
- Established 1977/78
- Vic Chapter - LASIE
- Low membership, low fees, low overheads, Victorian focus
- http://www.vala.org.au

VALA Aims

- To promote the appropriate use of IT in libraries and information services.
- To facilitate understanding about trends and developments in IT, and new IT products
- To provide a forum for discussion of library-related IT issues
- To encourage innovation in the application of IT in libraries

---

VALA Activities

- VALA Conference
- General Meetings
- VALA Award
- R.D. Williamson Award
- VALA Study Grants / Student Awards (2001)
- VALA Travel Scholarships

VALA Travel Scholarship

- Scope of the Travel Scholarship
- VALA Objectives
- IT focus
- Eligibility
- Requirements of Scholarship holders

Travel Scholarship - benefits to scholarship holders

- Financial assistance to research
- Enables & encourages overseas research
- Opportunity to present findings at national VALA Conference
- Opportunity to publish
- Integration with professional and study commitments.

Travel Scholarship - benefits to profession

- Contribution to the scholarship of the profession
- Tracks overseas IT developments
- Encourages innovation, new ideas
- Promotes greater understanding of new technologies
- Encourages "entry level" professional involvement

Travel Scholarship - recent examples

Andrew Treloar (1996)
"The role of libraries as facilitators in electronic publishing."
VALA Conference 1998
VALA Program 2000

Vincent Galante (1998)
"Digital library systems and hybrid libraries."
VALA Conference 2000
VALA Program 2000

Professional Associations

- ALIA - http://www.alia.org.au
- RMAA - http://www.rmaa.com.au
- ACS - http://www.acs.org.au
- ASI - http://www.aussi.org
- ATEM - http://www.atem.org.au
- Infonet - http://www.libraries.vic.gov.au/infonet/

Grants /Scholarships/Awards

- ALIA Study Grant
  http://www.alia.org.au/awards/study.grant/

- Dunn & Wilson Scholarship
  http://www.alia.org.au/awards/dunn.wilson/
- ALIA Student Awards
  http://www.alia.org.au/awards/student.awards/
- Metcalfe Medallion
  http://www.alia.org.au/awards/metcalfe/

Professional Associations - participation & career enhancement

- Networking opportunities
- Professional recognition (formal/informal)
- Current awareness and information exchange
- Learning opportunities
- Leadership skills

Membership Inquiries

- VALA
  http://www.vala.org.au/membship.htm
  vala@vala.org.au
- ALIA
  http://www.alia.org.au/membership/

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Proceedings

Innovation, flexibility and professionalism

Vicki Williamson

Introduction

In this session we focus on the question: *What are prospective employers looking for?*

In the case of the Library and Information Service (LIS) at Curtin University of Technology in Perth, Western Australia the answer is simple.

We want staff at all levels that are innovative, professional and flexible.

Definitions

- Innovation - new ways of doing things that trigger change.
- Professionalism - qualities or typical features of a profession, linked to our values.
- Flexibility - that which will bend without breaking, pliable, manageable, versatile, adaptable.

The LIS experiences

We began our change process in 1992, with the appointment of a new UL. We developed the *LIS Strategic Plan (1992-2000)* that presented our vision for the future of the Library and Information Service (LIS) at Curtin.

Within the *LIS Strategic Plan (1992-2000)*, *Staff* was a Key Result Area - an area in which LIS needed to succeed in order to achieve its vision. In particular, that plan identified the following strategy:

> *To select, develop and retain a committed, innovative, competent workforce that is able to meet the present and future needs of LIS.*

We have recently prepared the *LIS Plan (2000-2005)* and the emphasis on our people remains. The KRA of Culture commits us to *Build a flexible, skilled workforce that is committed to and aligned with the Curtin and LIS vision, mission and values*. Over the life of the plan we intend to take specific actions which will ensure LIS:

- Becomes an exemplary learning organisation
- Identifies and develops the appropriate staff profile
- Embeds our values and supports behaviours that reflect those values
- Develops structures and capabilities that will enable a rapid response to agreed new initiatives.

Through our work over the last eight years we are already a good way forward on a number of these.

What specific actions have we already taken?

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We have:

- Implemented competency based position descriptions, which use the Library Industry Competency Standards and Curtin competencies
- Combined jobs within a generic job family: Library Assistants, Library Technical etc.
- Developed a whole of LIS culture that recognises innovation, professionalism and flexibility
- Paid special attention to recruitment processes - e.g. Chairing of Panels, practical tests, academic records etc.
- Rotated staff on a regular basis within grade and across different LIS unit.
- Required all staff to undertake work, which involves working with information, working with others and working with clients - all LIS staff have some public contact at client service points. e.g. the Bindery staff.
- Developed a comprehensive staff induction progress
- Paid special attention to staff training and development
- Exploited the University's generous policy on HECS payments to develop our own staff knowledge and skills in areas of strategic importance to Curtin University. We have 2 staff with doctorates; most senior staff have post-graduate qualifications, many of them with research degrees, etc.

The future

It's getting harder and harder to fill positions and to find staff who are innovative, professional and flexible.

A number of factors are impacting here. In particular,

- Our clients are diversifying and their expectations for support and service are increasing. For example, last week I recruited for a librarian to work at our Kalgoorlie Campus Library. That facility services, a co-located high school with students from Year 8 upwards, the vocational, education and training programs of Curtin's TAFE sector and higher education students from a number of disciplines ranging from nursing to mineral economics.
- The world of networked scholarly information is demanding new and different skills. The requirement for IT skills is growing.
- The push for information literacy is requiring librarians, especially those who work in academic libraries to be more closely aligned with the processes of teaching, learning and research.
- New facilities are emerging and they require a different skill mix. For example, at the John Curtin Prime Ministerial Library I have a staff team of 3.0 FTE, made up of the following staff mix: A senior archivist/librarian (with dual qualifications), an archives technician, an education officer (with qualifications in history/politics and education) and a librarian (with a double major in librarianship and journalism) who works as our publication and public programs co-ordinator.

Conclusions

Because I chair all selection panels for all permanent and long term temporary appointments within LIS, I see and speak to a lot of people new to our industry. If I were to venture some advice it would be to:

- Take care with your written application - it may make the difference between getting an interview or not.
- Prepare for the interview - find out about the organisation, know the selection criteria and try to anticipate the questions around the criteria.

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- In the interview listen to the question **before** you answer it. Be concise in your responses and give some relevant examples based on your life experience, family responsibilities, studies or practicum work etc.

Good luck with your careers. In today's information age and knowledge economy, libraries have a more important role than ever to play. I hope you will want to be a part of that.

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Proceedings

Stand out in the Crowd: skills development for a successful career

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What are employing libraries looking for?

As an employer when recruiting staff you are seeking skills such as:

- Critical thinking and problem solving skills
- Ability to meet deadlines
- Willingness and enthusiasm to take on and an ability to manage a range of tasks
- Ability to work as a member of a team and under limited supervision
- Someone who is client focused

When recruiting to vacancies the following skills/actions is what makes applicants stand out:

- Those who investigate/gather information about their potential employer (eg those who take an interest in Vocational Education and Training industry)
- Relevant referees reports or those who could respond to your potential workplace practices
- Evidence of those who self-initiate when acquiring or enhancing workplace skills
- Those who demonstrate the balance between theory and practice

The theoretical component is what is termed underpinning knowledge, the practical component demonstrates your ability to apply it to a workplace situation

Academic qualifications are both critical and admirable in our present society. In the information industry practical experience is equally as critical - they are seen as complimentary but equal

As a potential employer I am willing to take on those who do a work placement as part of their study

Those willing to take on tasks lower than positions you will be getting as a graduate is very positive ie desk and shelving types of positions

Where possible acquiring a part-time position whilst studying - is a good approach

From our recent experience of those we have employed on a temporary contract they have been less willing to perform duties they consider lower than the professional level. There is a fine line between confidence and arrogance. From an employer's perspective this attitude is often perceived as arrogance rather than confidence

The traditional Technical Services and Reader Services skills are no longer as segregated as they have been in the past. These skills are now interchangeable in the workplace

At interview you may be given a scenario where the panel is looking at your ability to manage situations in the workplace and they will be legitimate examples of what actually happens in the workplace

It is not only about acquiring skills - it is also about developing them to an independent level in the

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workplace

As stated earlier, the information industry is a very practical profession. One must first acquire the doing skills before one is management material

When looking for middle and senior management - applicants must show how they manage situations not necessarily how they do tasks

Communication is a critical workplace skill. This includes communicating up as well as down

Seek out someone who is willing to take on a mentoring role with you, particularly in developing your management skills

As a manager I often state:

> A good manager knows of situations in the workplace but does not necessarily get involved. I try to let the managers manage, though this is not often easy to do, depending on the situation

Experience

I have been asked to use my own experiences as an example of success, but I will leave that part of it to your judgement.

End 1983

Appointed as Library Assistant in an academic library when I had completed 75% of a Graduate Diploma of Librarianship at the then Canberra College of Advanced Education

1984

Contract continued in this position for 30 hours per week whilst I completed the Graduate Diploma.

In this position my duties were:

- basic reference
- preliminary cataloguing
- filing
- shelving
- loans
- shelf-reading and general library duties

July 1984

Completed Graduate Diploma and began working as a Library Officer 1 full-time

After two years in this position I realised there was limited opportunity for me to gain a professional position where I was employed. I enjoyed working with young people and looked for positions that required the skills I had gained in an academic library

June 1986

I was appointed as the Young Adults Librarian (Librarian 1) at the Belconnen Branch of what was then the Canberra Public Library Service where I stayed for two years. I took every opportunity to work with school libraries to develop information literacy skills of young adults. When I realised that the long-term support for such a position was under threat in the Public libraries, I looked for positions that needed the skills I had and where I could develop skills I didn't have. During that time I enrolled in a Graduate Diploma of Advance Librarianship (equivalent to a Masters Qualifying)

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which I completed in 1989.

June 1988

Appointed as an L1 at the National Library of Australia (NLA), Oral History Section where I stayed until December 1990. During my time at the NLA I acted as the Senior Oral History Officer, I worked in the Australian Reference section briefly and the Map Section on a regular basis undertaking both reference and cataloguing duties.

Once again I saw this acquisition of a range of skills at the PO1 level as an opportunity. I also found that my attitude carried me through as I was willing to try things.

December 1990

After 6-7 years as a PO1 I felt ready for a promotion at the middle management level. I had opportunities in the Public Libraries acting as Branch Librarian and as the Senior Oral History Officer (non-professional position at the PO2 level) at the NLA. I realised how much I missed working in an educational environment and recognised my interest in Vocational Education &Training sector (ie TAFE)

Appointed as a Campus Librarian at the then ACT Institute of TAFE. I was able to market my skills in the areas of managing human, financial and physical resources as part of the selection process. I also had a number of publications and a reasonable list of projects that I had managed or been a team participant. I began developing a clear strength in client services.

July 1996

I then had an opportunity to act as Senior Librarian Learning Services at what had become the Canberra Institute of Technology (CIT). I was permanently appointed to this position in August 1997 with experience in managing the staff and services across six campus libraries, co-ordinating the Library Business Plan, forming strong links with the Faculties, regularly presenting the Library session as part of the Prepare to Study workshop for newly enrolled students at CIT. I also had a keen interest in corporate issues and how these affected the role of the L&LC in an educational environment.

As the information industry changed my role in this position developed and I acquired a range of marketable skills. In particular, my skills in client services, presentation of services to staff and student across CIT and project management. At that time CIT Library & Learning Centre took on a new initiative and developed an electronic library tour (on CD-ROM in those days) and then developed library literacy modules in electronic format as a follow on from the electronic library tour.

Throughout this time I maintained a keen interest in information literacy and focused on the development of key competencies of learners in a VET environment.

From 1993 I studied part-time and completed my M.A (information Studies) in 1998 with my thesis topic being: An investigation of library literacy levels of flexible learners at the Canberra Institute of Technology: a Pilot study.

I have always had a strong interest in the role those employed in the information industry have in developing information literacy levels of learners. I have also had a long-term commitment to vocational education and training.

August 1999

Appointed as the Institute Librarian at CIT. In the past 12 - 18 months through the contributions and professional support of the staff of the Library & Learning Centre (L&LC) we have put information literacy on the agenda within CIT where we actively promote learning partnerships between the Faculties and the L&LC as a provider of support services. Our clients include those

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involved in curriculum design, delivery and the learners themselves.

As a member of the senior staff within CIT I take every opportunity to further enhance the role of the L&LC in a VET environment and continually work at raising our profile both within CIT and nationally through the National Working Group for TAFE Library Services as Convenor of that group.

A recent achievement has been the development and implementation of a complete Library Restructure which was fully implemented this year and resulted in budget savings of approximately $400,000.

Summary

In summary, my advice to all those involved in the information industry (be it at the beginning, middle or end of their professional career) the most marketable skills in the current environment is not only to maximise your involvement in new developments and major projects but to also build on measurable achievements. Remain client focused and innovative in the way you manage shrinking budgets. Not only do we need to be employed, but we also need to remain employable by enhancing our workplace skills through professional development.

Turn threats or limitations into opportunities and promote them to those who matter (i.e. the gatekeepers) within your organisation. Most importantly as managers we always need to remain people focused when managing client services in difficult times.

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